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In the Supreme Court

OF THE

United States

OCTOBER TERM 1990

IMPERIAL IRRIGATION DISTRICT,
Petitioner,
v.
STATE WATER RESOURCES CONTROL BOARD,
Respondent,
ENVIRONMENTAL DEFENSE FUND, INC.,
Intervenor.

APPENDIX TO PETITION FOR WRIT OF CERTIORARI TO THE CALIFORNIA COURT OF APPEAL, FOURTH APPELLATE DISTRICT, DIVISION ONE

JOHN P. CARTER
REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE
895 Broadway, Suite 101
El Centro, California 92243

PAUL D. ENGSTRAND
COUNSEL OF RECORD
GEORGE J. BERGER
DEARING D. ENGLISH
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation
501 West Broadway, Suite 1400
San Diego, California 92101
(619) 557-7800

Bowne of Los Angeles, Inc., Law Printers. (213) 627-2200

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[No. D008521. Fourth Dist., Div. One. Nov. 21, 1990.]

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Appellant,
v.
STATE WATER RESOURCES CONTROL BOARD,
Defendant and Respondent;
ENVIRONMENTAL DEFENSE FUND, INC.
Intervener and Respondent.

SUMMARY

In a proceeding brought by a local water district for a writ of mandate to overturn a decision by the State Water Resources Control Board regarding the district's misuse of water and requiring it to take certain actions, the trial court denied the petition, holding that the board's findings were supported by the evidence, and that its decision was a reasonable directive for achieving compliance with Cal. Const., art. X, § 2, requirements regarding reasonable water use. (Superior Court of Imperial County, No. 58706, James A. Malkus, Judge.*)

The Court of Appeal affirmed. It held that the trial court did not err in denying the petition, since the board had authority to determine the reasonableness of the district's water use, the board's decision did not constitute an unconstitutional interference with the district's vested rights to use the water, nor did it violate the separation of powers doctrine, its factual findings supported the legal conclusions it made, and there was nothing in the board's decision that exceeded reason or the bounds of its discretion. (Opinion by Froehlich, J., with Work, Acting P. J., and Todd, J., concurring.)

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* Assigned by the Chairperson of the Judicial Council.

HEADNOTES

Classified to California Digest of Official Reports, 3d Series

(1) Administrative Law § 138 — Judicial Review and Relief — Appellate Courts — Substantial Evidence Test. — An appellate court's function, in reviewing determinations made by the superior court in its "independent judgment" review of an administrative agency decision, is to apply the substantial evidence test to factual findings. Factual determinations by the trial court will be upheld if substantial evidence, gleaned from the administrative record, supports them. However, the trial court's determinations on issues of law are fully reviewable by the appellate court and it is bound neither by the preliminary resolution of the same by the administrative agency nor by the subsequent trial court decision.

(2) Appellate Review § 119 — Dismissal — Grounds — Mootness. — When events occur that render the granting of relief to a litigant impossible, an appellate court should not proceed, but should dismiss an appeal. A court should decide actual controversies and not give opinions upon moot questions or abstract propositions, or declare principles or rules of law that cannot affect the matter in issue in the case before it.

(3) Water § 186 — Water Litigation — Jurisdiction of State Water Resources Control Board. — Although it is generally the responsibility of the Department of Water Resources to investigate the waste and unreasonable use of water (Wat. Code, § 225 et seq.), if the department is unsuccessful in reforming the misuse, the adjudication to determine misuse and remedial

measures taken to halt it are the responsibility of the State Water Resources Board (Cal. Code Regs. tit. 23, §§ 4004-4006). Thus, where an investigation by the department, conducted in response to a citizen's complaint about flooding of certain lands, led to a report concluding an irrigation district was wasting water, and the district failed to adequately cooperate with the department, the matter was properly referred to the board, which had the authority to determine whether that particular irrigation use was or was not unreasonable. The board had authority to establish standards for the reasonableness of use of irrigation water, since it has statutory authority to exercise the statutory and regulatory functions of the state in the field of water resources (Wat. Code, § 174), its broad authority to control and condition water use extends to regulation of water quality and prevention of waste, its duties and rights include ensuring compliance with the mandate of Cal. Const., art. X, § 2, which requires all uses of water to conform to a standard of reasonable use, and it was the intent of the Legislature to grant the board open-ended, expansive authority to undertake comprehensive planning and allocation of water resources.

[See Cal.Jur.3d, Water, § 43; 4 Witkin, Summary of Cal. Law (9th ed. 1987) Real Property, § 780.]

(4) Water § 62 — Interference With Waters — What Constitutes — Regulation of Water Misuse by State Agency. — Although a decision by the State Water Resources Board, requiring a local irrigation district to develop and present a water conservation plan to remedy its misuse of water and retaining jurisdiction to review the adequacy of the district's plans did not interfere with the district's contractual and statutory entitlement to certain river waters, it did substantially impact the practical use and administration by

the district of its water. However, the board's decision did not constitute an unconstitutional interference with the district's vested rights to use the water, since the district had only vested rights to "reasonable" use of the water, but no right to waste or misuse it.

(5) Water § 134 — Jurisdiction of State Water Resources Control Board Over Irrigation Districts — Separation of Powers. — The supervision imposed on the local irrigation district by a decision of the State Water Resources Board that required the district to develop and present a water conservation plan to remedy its misuse of water and retain jurisdiction to review the adequacy of the district's plans did not violate the doctrine of the separation of powers. Although the board was directly under the supervision of the executive branch of the government, and the district was an independent and specialized agency, each was a creation of the Legislature, with the board specifically given supervision over water waste by anyone in the state (Cal. Const., art. X, § 2), including the irrigation district, and the board did not violate the doctrine by exercising the power given to it. The doctrine did not apply, since both agencies were administrative agencies, vested with regulatory and adjudicative powers, and thus there was no violation of any objective of separateness when one regulated the other.

(6) Water § 134 — Jurisdiction of State Water Resources Control Board Over Irrigation Districts — Lack of Requirement for Board to Show District Decisions Deference. — In determining whether a local irrigation district's use of water was reasonable, the State Water Resources Control Board, as the

"expert" in the field of reasonable water use (Cal. Const., art. X, § 2), was not required to give deference to the district's decisions in the field of water waste.

(7) Water § 186 — Jurisdiction and Venue — Jurisdiction of State Water Resources Control Board. — The State Water Resources Control Board, as the agency entrusted with the orderly and efficient administration of the state's water resources (Wat. Code, § 174), has the power to take whatever steps are necessary to prevent unreasonable use of water and its adjudicatory powers are not limited to cases litigated by competing named parties. The board is vested with power, on its own, and at its own initiative, to investigate alleged water waste and to take appropriate remedial action. Thus, the board had the authority to adjudicate the issue of reasonableness of a local irrigation district's water use, even though the dispute between the private citizen and the district that gave rise to the initial investigation into the district's water use had been resolved.

(8) Water § 2 — Definitions and Distinctions — Beneficial and Reasonable Use of Water Under State Constitution. — The state Constitution requires not only that water use be "reasonable" but that the state's water resources be put to beneficial use to the fullest extent of which they are capable (Cal. Const., art. X, § 2). Thus, a comparison of uses is required, since what is a beneficial use depends on the facts and circumstances of each case, and what would be a reasonable use in one instance, due to the presence of water and excessive need, would not be a reasonable

beneficial use in an area of scarcity and need. The fact that a water use may be "beneficial," does not mean such use is necessarily "reasonable" as contemplated by the constitutional mandate.

(9) Water § 193 — Water Litigation — Affirmance of State Water Resources Control Board Decision — Sufficiency of Evidence — Appeal. — In a proceeding brought by a local water irrigation district for a writ of mandate to overturn a decision by the State Water Resources Control Board finding that the district misused water and requiring it to develop and present a water conservation plan to remedy its misuse of water and retaining jurisdiction to review the adequacy of the district's plans, the trial court did not err in denying the petition. The record supported the trial court's affirmance of the board, where the board's factual finding supported the legal conclusions it made and there was nothing in the board's decision that exceeded reason or the bounds of its discretion.

COUNSEL

Horton, Knox, Carter & Foote, J. Penn Carter, Reginald L. Knox, Jr., Jennings, Engstrand & Henrikson, Paul D. Engstrand and Richard G. Opper for Plaintiff and Appellant.

John K. Van de Kamp, Attorney General, Andrea S. Ordin, Chief Assistant Attorney General, R. H. Connett, Assistant Attorney General and M. Anne Jennings, Deputy Attorney General, for Defendant and Respondent.

John W. Krautkraemer for Intervener and Respondent.

OPINION

FROEHLICH, J. — This is an appeal from a judgment denying the petition for writ of mandate brought by Imperial Irrigation District (IID) to overturn a decision of the State Water Resources Control Board (Board).

PROCEDURAL BACKGROUND AND STANDARDS FOR REVIEW

In 1980 a private citizen requested the Department of Water Resources to investigate alleged misuse of water by IID which had resulted in a rise in the level of the Salton Sea, flooding the citizen's farmland. After an investigation, an initial conclusion of water waste, and unproductive communications with IID, the Department of Water Resources referred the matter to the Board for investigation and action. The Board held a hearing which encompassed a period of six days late in 1983, taking testimony and receiving evidence from a number of sources including the original complaining citizen, the Department of Water Resources, IID, a number of other governmental agencies, and the intervener herein, the Environmental Defense Fund, Inc.

On June 21, 1984, the Board issued its decision regarding misuse of water by Imperial Irrigation District, designated Decision 1600 (hereafter sometimes referred to as Board Decision) which consisted of a 71-page review of the history of the proceedings, the evidence taken by the Board, the Board's findings and conclusions, and an order requiring certain action be taken by IID. The Board gave reconsideration to its decision upon the request of several parties, including IID. By order dated September 20, 1984, all modifications sought were denied and the previous decision was affirmed.

IID thereupon brought action in the superior court seeking review of the Board's action. By stipulation of the parties, the trial court bifurcated its review and undertook first to determine the question of the Board's jurisdiction. IID contended the Board did not have the power to render the adjudicatory decision contained in Decision 1600. (*Imperial Irrigation Dist. v. State Water Resources Control Bd.* (1986) 186 Cal.App.3d 1160, 1162 [231 Cal.Rptr. 283]; hereafter cited as *Imperial I.*) The trial court agreed with IID, ruling that " '[t]he orders contained in Decision 1600 are without binding effect on [IID].' " (*Id.* at p. 1164.) An appeal to this court followed, resulting in reversal of the trial court's ruling, the court stating: "[W]e hold . . . that the Board's authority includes the power to adjudicate the article X, section 2, issue of unreasonable use of water by IID." (*Id.* at p. 1171.) The appellate court also ruled that a plenary review of the Board's decision should be by way of writ in the superior court. (*Ibid.*)

The case then being returned to the superior court, said court undertook to review by writ of mandate the substance of Decision 1600. Using the independent judgment test (as directed by this court, *ibid.*), the court determined that the Board's findings were supported by the evidence, that its decision was "a reasonable and balanced directive for achieving compliance with Article X, Section 2," and that the writ should be denied. This appeal followed.

(1) The appellate court's function, in reviewing determinations made by the superior court in its "independent judgment" review of an administrative agency decision, is to apply the substantial evidence test to factual findings. Factual determinations by the trial court will be upheld if substantial evidence, gleaned from the administrative

record, supports them. (*Pasadena Unified Sch. Dist. v. Commission on Professional Competence* (1977) 20 Cal.3d 309, 314 [142 Cal.Rptr. 439, 572 P.2d 53]; 8 Witkin, Cal. Procedure (3d ed. 1985) Extraordinary Writs, § 254, p. 879.) The trial court's determinations of issues of law, however, are fully reviewable by this court, and we are bound neither by the preliminary resolution of same by the Board nor by the subsequent trial court decision. (9 Witkin, Cal. Procedure (3d ed. 1985) Appeal, §§ 241, 242, pp. 246-249; *Shoban v. Board of Trustees* (1969) 276 Cal.App.2d 534, 541 [81 Cal.Rptr. 112].)

POSTURE OF APPEAL

As IID concedes in its brief, the essential facts of this case are not in dispute. The experts on any particular issue were never in complete agreement, but their differences were of degree, not kind. For instance, estimates of water lost through "canal spill" ranged from 53,000 to 135,000 acre feet per annum; and water lost through excessive "tailwater" ranged from 312,000 to 559,000 acre feet per annum. There was no dispute, however, that very large quantities of water in each case were being lost. The dispute is whether such loss (and this is but one example of such decisions made by the Board) was or was not reasonable.

Such ultimate characterization of factual issues is, we apprehend, more a conclusion of law than an issue of fact. Since, as is conceded, there are no real factual issues, we are not required, at least as to the principal issues on appeal, to sift through the administrative record to search for "substantial facts" supporting the court's decision. To the extent ultimate conclusions are factual, such as the key determination made by the Board and the trial court that IID's use of water was "unreasonable," our identifi

cation of substantial evidence in support of the court's conclusion can rest upon undisputed facts before both tribunals and our independent analysis as to whether any reasonable court could come to the ultimate conclusion of fact reached by the Board and the court. (See 9 Witkin Cal. Procedure (3d ed. 1985) Appeal, §§ 296-298, pp. 307-311.)

IID's assertions principally attack the conclusions of law made by the Board, as the same were approved by the trial court. We are therefore required to consider whether the Board's determinations, contained in Decision 1600, are sustainable in terms of its jurisdiction, its interpretation of statutes and regulations, and its legal conclusions.

In this regard we note that the very same Decision 1600 was before this court previously, in *Imperial I*, *supra*, 186 Cal.App.3d 1160. Our court at that time, citing existing statutory and judicial precedent, ruled that the Board had full authority to exercise adjudicatory and regulatory functions in the field of water law (*id.* at p. 1165); that it had " 'broad authority to control and condition water use, insuring utilization consistent with public interest' " (*id.* at p. 1166); that in such adjudication the Board could consider the interests of concerned persons who might not be parties to court action (*id.* at p. 1167); that article X, section 2 of the Constitution requires that all uses of water conform to a standard of reasonable use, and that the Board has a duty to ensure this mandate (*id.* at p. 1168); that the Board's adjudicatory authority is "all-encompassing" (*id.* at p. 1169); and that the Board *shall* take all necessary action in executive, legislative and judicial forums to prevent waste and unreasonable water use. (*Ibid.*)

We also note that although the entire administrative record was before this court at the time of its prior

hearing, and the court was obviously most conversant with the facts before, and decision of, the Board, it made no suggestion of any errors or transgressions by the Board in its interpretation and application of law. In light of this posture of the case it seems an uphill climb, to say the least, for IID now to assert claims of lack of jurisdiction and erroneous construction of legal principles by the Board.

However, we concede that our prior decision was somewhat limited in scope, and that we did remit the case to the superior court for further consideration. We also recognize the acknowledged expertise of counsel now before the court in the subject of water law, and the historic and practical importance of the issues raised (or re-raised) by IID. We therefore address anew the legal contentions of IID. These contentions are several, and receive different characterization in the briefs of appellant and respondents. Our effort to summarize the contentions results in the following outline of issues:

1. Did the Board err in the definition and exercise of its jurisdiction? Specifically:

(a) Since the Legislature has never set standards for the reasonableness of use of irrigation water, but has left the same for the determination of local agencies, does the Board have the power to establish standards of reasonableness?

(b) Does the Board have power to interfere with vested water rights?

(c) Is the Board's action a violation of the separation of powers doctrine?

2. Assuming the Board acted within its jurisdiction, did it err in the exercise and application of its adjudicatory powers? Specifically:

(d) Did the Board apply the correct measure of deference to the determinations of IID, considering that IID acted in a legislative capacity and its determinations should be reversed only upon a finding of abuse of discretion?

(e) Assuming the Board can adjudicate controversies between disputant water users, does it have any right to investigate and regulate water use of a user when no controversy with any other user is evident, for the benefit of unidentified and undetermined future users who are not within the IID district?

(f) Is the Board's conclusion that IID's water use is beneficial, and reasonable, consistent with its finding of water waste?

(g) Is there anything in the specific order contained in Decision 1600 which exceeds reason or the bounds of the Board's discretion?

THEORIES OF CASE RESOLUTION REJECTED

There are two major theories upon which our deliberations could be either peremptorily terminated or substantially foreshortened. Notwithstanding earnest invitations by each party, we decline to utilize either opportunity for sidestepping the issues just identified.

IID suggests that we should reconsider *Imperial I,* and that we reverse or refine principles therein stated. Although this court of course has the power to reconsider its prior decisions, and upon occasion has done so (see, e.g., *Canavin v. Pacific Southwest Airlines* (1983) 148

Cal.App.3d 512, 525-527 [196 Cal.Rptr. 82]), we decline the invitation in this case.

To the extent our statements in *Imperial I* were necessary to the decision in that case (i.e., not dictum) they have become the "law of the case" and are not now subject to modification. (See 9 Witkin, Cal. Procedure, Appeal, *op. cit. supra,* §§ 737, 738, pp. 705-708.) Insofar as statements in *Imperial I* may not be "law of the case," they nevertheless constitute persuasive authority which should be followed unless, by reason of passage of time or new enlightenment of some sort, they are found clearly erroneous. (*Id.* at § 773, p. 742.) Not only do we find *Imperial I* not erroneous, but our review convinces that "its rationale [is] quite persuasive." (*Swinerton & Walberg Co. v. City of Inglewood-L.A. County Civic Center Authority* (1974) 40 Cal.App.3d 98, 101 [114 Cal.Rptr. 834].) We therefore treat *Imperial I* as binding authority and follow it.

In a like vein, the Board suggests we should dismiss the appeal as moot. We are advised in both appellant's and respondent's briefs that since the adjudication herein, new action has been taken by IID which effectively responds to the orders contained in Decision 1600, and that this new action has been approved by new Board Order WR 88-20. Taking judicial notice of WR 88-20, we find a recitation of action taken by IID which renders the facts summarized in Decision 1600 largely outdated, and an order mandating future action by IID which substantially supplants the order contained in Decision 1600. We also note that an agreement has been negotiated between IID and the Metropolitan Water District which appears to satisfy many of the financial and other problems IID previously asserted as impediments to implementation of Decision 1600. Further, we are advised that the Board, by letter dated March 28, 1989, has found that "IID is in

substantial compliance with the currently applicable directives in Board Order WR 88-20." In light of these developments, the Board asserts that no relief is needed by IID, and indeed that no order this court could now make would have any practical effect.

(2) When events occur which render the granting of relief to a litigant impossible, the court should not proceed but should dismiss an appeal. Courts should decide actual controversies and "not . . . give opinions upon moot questions or abstract propositions, or . . . declare principles or rules of law which cannot affect the matter in issue in the case before it." (*Consol. etc. Corp. v. United A. etc. Workers* (1946) 27 Cal.2d 859, 862-863 [167 P.2d 725].)

We agree with appellant, however, that the appeal from the determination of Decision 1600 is not moot. Both in Decision 1600 and in Order WR 80-20 IID was required to submit progress reports every six months until further Board notice; and in both orders the Board retained open-ended jurisdiction to review the adequacy of plans and progress of IID. These retained powers over future action of IID were based upon assertions of jurisdiction which are the subject of this appeal. Should IID prevail in its appeal we apprehend the result, although presumably not returning IID to its precise posture prior to Decision 1600, would materially affect its compliance action from this point forward. We therefore find the appeal not moot.

DISCUSSION

1. Jurisdiction

(a) *Power to Establish Standards of Reasonableness*

Decision 1600 constitutes a comprehensive in-depth study of the water use practices of IID and its customers, and reaches the conclusion that certain practices of IID

are wasteful of water and hence unreasonable and a misuse of water in violation of article X, section 2 of the California Constitution[1] and section 100 of the California Water Code.[2] Relying on its own administrative regulations (Cal. Code Regs., tit. 23, § 4000 et seq.) the Board concluded it had the power to conduct hearings and to determine whether IID's water use was reasonable or wasteful.

---

[1]Article X, section 2 provides: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistentently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained."

Water Code section 100 contains language paralleling the constitutional provision, affirming that waste and unreasonable use of water are precluded.

[2]All statutory references are to the California Water Code unless otherwise specified.

IID challenges the Board's basic assertion of jurisdiction. IID admits that water use by Constitution and statute must be reasonable, but contends that insofar as use of water for irrigation purposes is concerned the Legislature either expressly or impliedly has left the decision as to what is reasonable to local agencies, such as IID, thus precluding the Board from entering this decision-making field. IID's argument is largely reliant on absence from statutes of any specific delegation of this power to the Board, and is bolstered by the citing of miscellaneous examples of the Legislature's handling of related issues.

Section 1004 (adopted in 1913 for purposes which seem irrelevant to today's circumstances), for example, provides that use of no more than two and one-half-acre feet of water per acre of "uncultivated areas of land not devoted to cultivated crops" is not a useful or beneficial purpose. Sections dealing with water from artesian wells, adopted in 1907, define in some detail what use is reasonable and what is wasteful. (§§ 301-303.) More recent legislation (§§ 1009, 375) dealing with water-saving and water-reclamation devices specifically is made inapplicable to agricultural uses. Sections 1011 et seq., adopted in 1979, referring to conservation of water and the sale of conserved water, do not provide any specific means for adjudication of reasonableness.

Even the Agricultural Water Management Planning Act (adopted in 1986 and hence admittedly peripheral to our deliberations) provided that water management plans to achieve water conservation would be administered by the Department of Water Resources, not the Board (State Water Resources Control Board). (See § 10800 et seq.)

IID also points to miscellaneous provisions which appear to vest in local agencies, such as IID, the power to determine which irrigation practices are "reasonable." Referring again to the Agricultural Water Management Planning Act, IID notes that under section 10840 et seq. the preparation of plans for water management is the responsibility of each water supplier, and that "[a]n agricultural water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan, as determined by the governing body of the agricultural water supplier." (§ 10843.)

Referring to a somewhat related program, IID finds in the Water Conservation and Reclamation Projects Act of 1985 (§ 11950 et seq.) a recognition of the need to conserve water on a statewide basis "for use in areas of the state with inadequate local supplies" (§ 11951 subd. (f)), but notes that even here emphasis is put upon local administration, section 11952 subd. (a) stating that the purpose is "to encourage local agencies and private enterprise to implement potential water conservation . . . ."

Finally, IID notes that in the 1982 legislation, relating to transfers of water between local agencies, an entire subchapter was devoted to "Deference to Decisions by Local or Regional Agencies," including a statement, in section 380 subdivision (c), that "[m]any water management decisions can best be made at a local or regional level" and, in section 381, that "[t]he authority of local or regional public agencies . . . shall control over any other provision of law which contains more stringent limitations on the authority of a particular public agency to serve water for use outside the agency . . . ."

All of this, we fear, is a scissors-and-paste job linking together bits of law which are either time specific or

subject specific, in an attempt to fabricate a blanket rule to govern a state agency's jurisdiction. We really need look no further than our own precedent in *Imperial I* to reject the argument. (3) The history of the Board's jurisdiction is detailed at length therein. (*Imperial I, supra,* Cal.App.3d at pp. 1165-1169.) We repeat in very summary form that:

(1) By statute (§ 174) the Board "shall exercise the adjudicatory and regulatory functions of the state in the field of water resources."

(2) The Board " 'has been granted broad authority to control and condition water use . . . [extending] to regulation of water quality and prevention of waste.' " (*Citing Environmental Defense Fund, Inc.* v. *East Bay Mun. Utility Dist.* (1977) 20 Cal.3d 327, 341-342 [142 Cal.Rptr. 904, 572 P.2d 1128].)

(3) The Board's duties and rights include ensuring compliance with the mandate of article X, section 2 of the Constitution, which requires that "*All* uses of water . . . must now conform to the standard of reasonable use." (Citing *National Audubon Society* v. *Superior Court* (1983) 33 Cal.3d 419, 443 [189 Cal.Rptr. 346, 658 P.2d 709].)

(4) It was the intent of the Legislature to grant the Board broad, open-ended expansive authority to undertake comprehensive planning and allocation of water resources. (Citing *In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 348-349 [158 Cal.Rptr. 350, 599 P.2d 656].)

We do not stop, however, with the citation of these broad principles, but attempt more specifically to focus on the question of power to determine the reasonableness of an irrigation use. At the outset, it is noted that authority

relevant to governance of IID's activities is vested in both the Department of Water Resources and the Board (State Water Resources Control Board). The responsibilities of these two agencies are somewhat overlapping and undoubtedly confusing to those not regularly conversant with California water law (see explanation contained in California Water Law in Perspective, 68 West's Ann. Water Code (1971 ed.) LXXXV-XCV). It is generally, however, the responsibility of the Department of Water Resources in the first instance to investigate waste or unreasonable use of water. (§ 225 et seq.) If the department is unsuccessful in reforming the misuse, the adjudication to determine misuse and the remedial measures taken to halt the same are the responsibility of the Board. (Cal. Code Regs., tit. 23, §§ 4004-4006.)

The procedures leading to Decision 1600 tracked this statutory path. An investigation by the Department of Water Resources, conducted in response to the citizen's complaint about flooding of lands near the Salton Sea, led to a report which concluded water waste. Failing to obtain what it deemed adequate cooperation from IID, the matter was then referred to the Board. Board hearings and conclusions followed in accordance with the statutory and regulatory pattern.

We start with the understanding, as per our numbered conclusions above, that the Board's obligations in the field of water use adjudication are broad, plenary and all-encompassing. We proceed by finding that the question of IID's use or misuse of water was properly brought to the attention of the Board. With this background can one seriously contend that the decision as to whether a particular irrigation use is or is not reasonable is precluded the Board? We answer our own question by noting that IID very seriously takes this position. Respectfully, we must

reject the contention. To say on the one hand that water conservation is the responsibility of the Board, and then to preclude it from measuring waste in irrigation practices, would be an absurd position.

We conclude the Board had jurisdiction to rule on the question whether irrigation practices of IID were reasonable or wasteful.

(b) *Interference With Vested Rights*

Water used by IID and its customers is diverted from the Colorado River. Diversion instrumentalities, including dams, power plants and the All-American Canal, which brings water from the river to the Imperial Valley, were authorized by the Boulder Canyon Project Act, enacted December 21, 1928. (43 U.S.C. § 617 et seq.) The Boulder Canyon Project Act vested in the Secretary of the Interior the power to enter into contracts for the delivery and allocation of water to users in the southwestern United States. The several interested states were unable to come to an agreement as to water allocation, and their entitlements were finally resolved by the United States Supreme Court in 1963. (*Arizona v. California* (1963) 373 U.S. 546 [10 L.Ed.2d 542, 83 S.Ct. 1468].) Allocation of Colorado River water among users in Southern California was achieved through mutual agreement, however. The agreement, termed the "California Seven-Party Agreement" was executed on August 18, 1931, and remains in effect. Amount of entitlement and priority of distribution to IID are established in this agreement.

IID's water rights, therefore, are the result of federal statute, United States Supreme Court decision, and a seven-party agreement allocating water among Southern California users. Water rights within the state of California traditionally were derived from riparian rights or

entitlement based upon prior appropriation. (See historical discussion in *United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 100-102 [227 Cal.Rptr. 161].) It is conceivable that IID's water rights, based as they are upon a unique blend of statutory and contractual origins, could be characterized as somehow more stable or securely vested than water rights from traditional sources. IID does not, however, make this claim. It simply contends that a right to use water, no matter how derived, once vested, becomes a property right which cannot be undermined without due compensation.

Illustrative of IDD's broad contention is the following quote from *United States v. State Water Resources Control Bd., supra,* 182 Cal.App.3d at page 101: "It is . . . axiomatic that once rights to use water are acquired, they become vested property rights. As such, they cannot be infringed by others or taken by governmental action without due process and just compensation." The essence of IID's contention, therefore, is that the Board was without power to deprive IID of its discretionary power of determination of water use without providing compensation (which the Board admittedly has no power to provide).

As a preliminary matter we should note exactly what the Board did require of IID. The principal mandate contained in the Board Decision was an injunction that IID develop and present a water conservation plan. The trial court in its memorandum of decision noted that "except for requiring the District to repair defective tailwater structures, Decision 1600 itself requires no specific conservation measures, nor does it compel IID to sell, transfer, or otherwise convey water to the Metropolitan Water District or any other party. Decision 1600

simply requires the District to prepare plans to remedy its misuse of water, while retaining jurisdiction to review the adequacy of IID's plans."

We are unable, however, to agree that Decision 1600 did not substantially erode IID's otherwise virtually complete control over its water use. IID was required within a period of eight months to submit a plan for reservoir construction and to affirm its intent to construct one reservoir per year. Once a general plan of water conservation was achieved, IID was required to submit progress reports every six months "until the objectives have been achieved." The board reserved jurisdiction to monitor IID progress and to "take such other action" as might be required to assure compliance with an approved plan. There can be no doubt that the Board's intrusion into IID's previously untrammeled administration of the use of water in its district was substantial. As often stated in water law cases, "what is meant by a water right is the right to *use* the water . . . ." (*Id.* at p. 100.) While the Board's decision in no way interfered with IID's contractual and statutory entitlement to Colorado River water, it most certainly presaged an interference with IID's utilization of that water once it traversed the All-American Canal.

Our conclusion that the Board Decision substantially impacted the practical use and administration by IID of its water does not, however, result in our acceptance of IID's contention of unconstitutional interference with "vested" rights. Historic concepts of water "rights" in California were dramatically altered by the adoption in 1928 of the above referenced constitutional amendment. (*Id.* at pp. 105-106.) Our Supreme Court, in *Gin S. Chow v. City of Santa Barbara* (1933) 217 Cal. 673 [22 P.2d 5], acknowledged that the new provision altered previously

vested rights. "As already observed the amendment purports only to regulate the use and enjoyment of a property right for the public benefit, for which reason the vested right theory cannot stand in the way of the operation of the amendment as a police measure. A vested right cannot be asserted against it because of conditions once obtaining. [Citation.] It has been long established that all property is held subject to the reasonable exercise of the police power and that constitutional provisions declaring that property shall not be taken without due process of law have no application in such cases." (*Id.* at p. 703.)

The concept of the dimension of rights remaining to the water user after the constitutional amendment was fully developed in *Joslin v. Marin Mun. Water Dist.* (1967) 67 Cal.2d 132 [60 Cal.Rptr. 377, 429 P.2d 889]. In that case a lower user attempted to enjoin upstream diversion by a municipal water company upon the contention that the downstream prior use for deposit of sand and gravel was a vested, protectible use. The Supreme Court held that simply because a use is beneficial it does not become "reasonable" under the Constitution. Denying the plaintiff's assertion of compensability for its loss of water, the court focused on the *nature* of water rights after 1928. "While plaintiffs correctly argue that a property right cannot be taken or damaged without just compensation, they ignore the necessity of first establishing the legal existence of a compensable property interest. Such an interest consists in their right to the *reasonable* use of the flow of water . . . . [While a] vested right *as now defined* may not be destroyed or infringed upon without due process of law or without just compensation . . . [there is] no provision of law which authorizes an unreasonable use or endows such use with the quality of a legally protectible interest merely because it may be fortuitously beneficial to the lands involved." (*Id.* at pp. 143-144; see

also *Peabody v. City of Vallejo* (1935) 2 Cal.2d 351 [40 P.2d 486]; *People* ex rel. *State Water Resources Control Bd. v. Forni* (1976) 54 Cal.App.3d 743 [126 Cal.Rptr. 851]; *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 443, fn. 23 [189 Cal.Rptr. 346, 658 P.2d 709] ["After the effective date of the 1928 amendment, no one can acquire a vested right to the unreasonable use of water."].)

(4) Put simply, IID does not have the vested rights which it alleges. It has only vested rights to the "reasonable" use of water. It has no right to waste or misuse water. The interference by the Board with IID's misuse (this finding of fact by the Board being accepted for purposes of the present issue) does not constitute a transgression on a vested right.

(c) *Violation of Separation of Powers Doctrine*

IID argues that its administration of its district's water use, including regulations governing tailwater management, canal spills, etc., is legislative in nature. Apparently presuming that the actions of the Board were adjudicatory and hence "judicial" in nature, IID claims a breach of the separation of powers doctrine.

"The separation of powers doctrine establishes that none of the coordinate branches of our tripartite government may exercise power vested in another branch. Article III, section 3, of the California Constitution provides: 'The powers of state government are legislative, executive, and judicial. Persons charged with the exercise of one power may not exercise either of the others except as permitted by this Constitution.'" (*Estate of Cirone* (1987) 189 Cal.App.3d 1280, 1286 [234 Cal.Rptr. 749].)

IID contends that the decisions related to its administration of water use in its district are discretionary

legislative decisions reserved by law to its board of directors. IID admits that the Board, as an adjudicatory body, has the power to resolve disputes in California relating to water rights. It contends, however, that the Board here has gone far beyond dispute resolution. In its Decision 1600 (as well as its subsequent Order WR 88-20, which IID asks us to notice although it is subsequent to the decision giving rise to this appeal), the Board has gone well beyond the adjudication of any controversy. It has in fact, IID claims, engaged in the adoption of injunctive-type relief imposing upon IID the obligation of construction of capital improvements, adoption of new water use regulations, and probably the assessment of additional charges to its users.

The doctrine of "separation of powers" has been utilized in California to strike down interference by one of the primary branches of government with another. Its most typical application has been seen in the admonition that "a court may not compel the Legislature to enact a legislative measure . . . ." (*Mandel v. Myers* (1981) 29 Cal.3d 531, 539 [174 Cal.Rptr. 841, 629 P.2d 935].) The doctrine was thus the underpinning for determinations that the court could not compel the appropriation of funds by the state Legislature to pay unemployment insurance obligations owed the City of Sacramento (*City of Sacramento v. California State Legislature* (1986) 187 Cal.App.3d 393 [231 Cal.Rptr. 686]); and that the court was precluded from overturning a legislative cap on appropriations for appointed counsel fees (*Estate of Cirone, supra,* 189 Cal.App.3d at p. 1280). In *Mandel v. Myers, supra,* 29 Cal.3d 531 the transgression upon the separation of powers was found to have been committed by the Legislature, when it redetermined the propriety of payment of a $25,000 fee which had been adjudicated owing in judicial proceedings. "[T]he fundamental sepa-

ration of powers doctrine embodied in article III, section 3 of the California Constitution . . . forbids any such legislative usurpation of traditional judicial authority." (*Id.* at p. 547.)

The separation of powers doctrine has also been applied to restrict judicial tampering with the legislative prerogatives of administrative agencies. In *Sklar v. Franchise Tax Board* (1986) 185 Cal.App.3d 616 [230 Cal.Rptr. 42], the court found itself precluded from mandating the adoption by the Franchise Tax Board of regulations pertaining to the deductibility of expenses for alcoholic beverages, terming this a "legislative" decision. (*Id.* at p. 624.) A trial court's order to an agency with jurisdiction over airport lands was reversed upon a determination that it was too broad, and "impermissibly sought to judicially compel the performance of a quasi-legislative act by an administrative body." (*City of Coachella v. Riverside County Airport Land Use Com.* (1989) 210 Cal.App.3d 1277, 1293 [258 Cal.Rptr. 795].)

Relation of the general "separation of powers" doctrine to the Board's jurisdiction over IID is not answered, however, by these precedents — precedents which deal with "pure" governmental functions. The separation of powers concept was first evidenced in the governments that emerged from the American and French revolutions. Although even at these early times no true or complete separation was ever achieved, the three branches of government nevertheless existed in relatively pure form. (See 1 Davis, Administrative Law Treatise (2d ed. 1979) § 2:4, pp. 67-72.) Time has blurred the purity of division of governmental functions, however, particularly with the advent of administrative agencies. As stated in *Bixby v. Pierno* (1971) 4 Cal.3d 130, 142 [93 Cal.Rptr. 234, 481 P.2d 242]: "Possibly the most significant structural

change in our government since the date of its founding has occurred in the twentieth century development of a huge administrative bureaucracy. To deal with the manifold problems of modern society these administrators have been delegated substantial quasi-legislative and quasi-adjudicative powers."

We here deal with the quasi-adjudicative *and* quasi-legislative regulation by the Board of the quasi-adjudicative and quasi-legislative activities of IID. Does the simplistic concept of "separation of powers" have any application? Perhaps a closer focus on the agencies themselves will enlighten.

IID was organized in 1911 under enabling legislation adopted in 1897. (*Imperial Land Co. v. Imperial Irr. Dist.* (1916) 173 Cal. 660, 662 [161 P. 113].) The process of formation involved the presentation of a petition by landowners to the county board of supervisors, with the supervisors' approval formalized by recordation in the office of the county recorder. Thereafter the affairs of the irrigation district were to be governed by a board of trustees with the power to impose assessments on land (through disinterested commissioners), plan for irrigation works, and achieve construction, maintenance and repair of same. Included within the powers of the trustees was the power to condemn rights of way. (See Historical Note, 69 West's Ann. Water Code (1984 ed.) § 20500, pp. 35-37.) The original enabling statute was replaced in 1943 by a new statutory framework commencing with section 20500. We find no indication that the new statutory framework to any degree reduces the quasi-legislative and quasi-adjudicative discretion vested in irrigation districts.

For instance, "A district may do any act necessary to furnish sufficient water in the district for any beneficial

use." (§ 22075.) It has the power to adopt regulations to assure equitable distribution of water (§§ 22085, 22085.5, 22086) and may take direct action to assure compliance with its rules (§§ 22081.5-22084.5). An irrigation district has been described as having "many express powers and also broad general powers." (25 Ops.Cal.Atty.Gen. 164, 165 (1955).) Irrigation districts, although not political subdivisions of the state, are public agencies performing governmental functions — agencies of the state and "subservient to it." (*In re Lindsay-Strathmore Irr. Dist.* (D.C.Cal. 1937) 21 F.Supp. 129, 134.)

The Board, unlike IDD, is a political subdivision of the state. It is a part of the Resources Agency (§ 175), which in turn is one of the several principal administrative agencies of the state (Gov. Code, § 12800), responsible to and appointed by the Governor (Gov. Code, §§ 12801, 12802.5, 12850.4), and hence logically more a part of the executive branch than any other branch of government. Like many other federal and state agencies, however (see 1 Davis, Administrative Law Treatise, *supra*, § 2.5, p. 74 *passim*) the Board's powers and responsibilities are a blend of judicial, legislative and administrative concepts. Generally, it "exercise[s] the adjudicatory and regulatory functions of the state in the field of water resources." (§ 174.) It has investigative powers (§§ 1051(a), 1051(b)); it may determine disputes related to appropriation of water (§ 1051(c)) and has the power to issue and condition permits for appropriation (§ 1258); it determines conflicting riparian rights to use of stream waters (§§ 2500-2900); and it acts as a referee in water disputes when appointed by the court (§§ 2000-2076). Most relevant to our case, the Board has power to enforce the constitutional requirement of "reasonableness" in water use, and to investigate and act upon allegations of waste or misuse of water. (19 Pacific L.J. 957, as reprinted in

Overview of California Water Rights and Water Quality Law, 68 West's Ann. Water Code (1971 ed. 1990 pocket supp.) XXIII; *People* ex rel. *State Water Resources Control Bd. v. Forni, supra,* 54 Cal.App.3d at p. 753; Cal. Code Regs., tit. 23, §§ 4000-4007; *Imperial I, supra,* 186 Cal.App.3d at p. 1169.)

(5) The case before us, then, is one involving a "line" water agency created to contract for water acquisition and delivery, to construct capital improvements, to assess water users, and to regulate water use within its district. Juxtaposed against this agency status is that of another agency, perhaps better described as "staff" in the sense that it delivers no water itself, but is charged with supervision of the water activities of other agencies. It is apparent to us that the very purpose of the Board was to serve as supervisor and regulator of the activities of actual water deliverers, at least in the specific areas delegated to it, such as the prevention of waste. Each agency is vested with detailed specific, and manifold implied, powers which partake of legislative, judicial and administrative powers. In these circumstances it seems implausible to assert that the supervision imposed by the Board violates "separation of powers."

There is, in fact, no theoretical "separation of powers" in the activities of these agencies. Although one (the Board) is directly under the supervision of the executive branch of government and the other (IID) is an independent and specialized agency, *each* is the creation of the Legislature. "[T]he powers of public [agencies] are derived from the statutes which create them and define their functions." (25 Ops.Cal.Atty.Gen., *supra,* 164, 165.) Having created both agencies, and having specifically given the Board supervision over water waste permitted by anyone in the state, including IID, it is nonsensical to say

that the Board violates some theoretical concept of power separation when it exercises the very power given it.

We have labored long on this issue, perhaps because the philosophical concept of separation of powers is itself difficult to grasp. The short answer might have been better: simply that the concept of "separation of powers" has no application in this case because both parties are administrative agencies, both vested with regulatory and adjudicative powers, and hence there is no violation of any objective of separateness when one regulates the other.

2. *Alleged Errors in Adjudication*

(d) *Incorrect Test of Agency Review*

(6) IID contends that its decisions, under review by the Board, were quasi-legislative in nature, and that they should have been accorded deference by the Board, to be reversed only upon "clear and convincing" evidence.

IID here confuses, we believe, the standard of review appropriate for the Board with that which is proper for judicial review of quasi-legislative determinations of an agency.[3] Deference is required of reviewing courts with

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[3]See, for instance, *Faulkner v. Cal. Toll Bridge Authority* (1953) 40 Cal.2d 317, 329 [253 P.2d 659] (court review of conclusions of agency after it has conducted factual hearing should give deference to the agency expertise); *Industrial Welfare Com. v. Superior Court* (1980) 27 Cal.3d 690, 702 [166 Cal.Rptr. 331, 613 P.2d 579] (judicial review of quasi-legislative action of the Industrial Welfare Agency limited to determination of arbitrariness or entire absence of evidentiary support); *City of Chula Vista v. Superior Court* (1982) 133 Cal.App.3d 472, 485 [183 Cal.Rptr. 909] (judicial review of legislative activity limited to determination whether the agency acted within its delegated authority and whether its action was reasonable as opposed to arbitrary, capricious or lacking in evidentiary support); *Higgins v. City of Santa Monica* (1964) 62 Cal.2d 24, 31 [41 Cal.Rptr.

respect to such determinations of agencies because of the expertise and special delegation of responsibility to the agency. That is not the case here. Both IID and the Board are agencies with presumed expertise in the field of water use. Although IID is a venerable entity through whose canals has passed perhaps more water than has traversed any other man-made way, it cannot claim a corner on the expertise of "reasonable" water use. From the authorities cited above, and particularly our own prior decision in *Imperial I*, we conclude that the Board is *the* expert in that field. The Board had no call to defer to the decisions of IID in the field of water waste.[4]

(c) *Lack of Disputants*

(7) The initial investigation into IID water use was initiated by a complaint from a citizen whose lands near the Salton Sea were being flooded. That dispute was settled before rendition of Decision 1600. The Board's proceedings continued, however. Also, the Board's adjudication dealt with concerns much broader than the flooding of Mr. Elmore's farmland. The ultimate thrust of Decision 1600 was to require planning and implementation of measures to prevent waste of large amounts of water (at least 100,000 acre feet annually) for the benefit of people,

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9, 396 P.2d 41] (judicial review of legislative action limited to determination as to whether it is " ' "palpably arbitrary and beyond rational doubt erroneous" ' ").

[4]See the parallel situation of the Board's exercise of power in connection with wastewater reclamation. In *Environmental Defense Fund, Inc. v. East Bay Mun. Utility Dist., supra*, 20 Cal.3d at pages 343-344, the Supreme Court noted the Legislature's intent to vest regulation in the Board, and advised that disputes relating to water reclamation should first be adjudicated by the Board, and that the courts should defer to Board expertise.

generally, in the state i.e., for the benefit of undetermined and unnamed future potential users.

IID claims that the continuance of the adjudication and the making of the order, in these circumstances, were error. IID points to the fact that all previous reported cases involving exercise of jurisdiction by the Board have dealt with actual disputes between identified and existing parties. There is, IID claims, no justiciable controversy here which permits the Board to interfere. The Board concedes that all prior cases have arisen from controversies between two or more water users, and hence that the instant case is unique.

The lack of specific precedent does not impair or preclude the Board's actions. The constitutional and statutory imperative is that the water resources of the state be put "to beneficial use to the fullest extent," and that "unreasonable use . . . of water be prevented." (§ 100.) *The* agency entrusted with the "orderly and efficient administration of the water resources of the state" is the Board. (§ 174.) In *United States v. State Water Resources Control Bd., supra,* 182 Cal.App.3d at page 142, it was stated that "the Board has the separate and additional power to take whatever steps are necessary to prevent unreasonable use or methods of diversion [of water]." In our own previous decision in this case, *Imperial I,* we concluded that the Board had "adjudicatory authority in the matter of unreasonable use even to the extent of ordering [IID] to submit a plan to conserve water," and concluded that "the Board's authority includes the power to adjudicate the article X, section 2, issue of unreasonable use of water by IID." (*Imperial I, supra,* 186 Cal.App.3d at pp. 1170-1171.)

We did not particularly focus, in *Imperial I,* upon the lack of specific competing named parties in the case. our

holding, however, was broad and unlimited in describing the powers of the Board. We have found nothing in statutory or case authority indicating any intention on the part of the Legislature to limit the Board's adjudicatory powers to cases litigated by competing named parties. We believe the Legislature intended to vest the Board with power, on its own and at its own initiative, to investigate alleged water waste and to take appropriate remedial action.

(f) *Inconsistent Findings*

IID contends that all of the water introduced into its district is used for "beneficial" purposes, including the excess water which finds its way to the Salton Sea. Such water prevents excessive salinization of the sea, protecting it as a fishery and wildlife sanctuary. It also finds beneficial use in the generation of electric power. There has never been, IID contends, an adjudication of constitutional misuse of water when the water is being beneficially used and there is no controversy between competing water users. Further, IID contends, both the Board and the attorney general have conceded that IID's use of water is "reasonable." Having made this concession, it is inconsistent and reversible error for the Board to reach a bottom-line conclusion of unreasonable use. IID's argument is bolstered, it contends, by the superior court's finding that "The Board did not find that IID's uses of water, in themselves, were unreasonable."

We believe IID has mischaracterized the Board's findings. The Board found (and IID does not dispute) that substantial losses of water resulted from canal spills, excess tailwater (the water running off the "tail" of a farm as the result of excess water being introduced at the "head" of the system), and other wasteful practices, such as canal seepage. Such runoff of water provided no alter-

native use for downstream users since IID's customers are at the end of the river, so to speak, the downstream being the Salton Sea. The totality of this waste of water was found by the Board to be "unreasonable and . . . a misuse of water." Admitting that fresh flow into the Salton Sea might have some temporary fishery benefit, the Board found it to be an unpersuasive factor in that "prolonged delay in water conservation measures would not save the fishery for an appreciable length of time."

(8) IID is also in error in contending that all "beneficial" uses are by definition "reasonable." The Constitution requires not only that water use be "reasonable" but that "the water resources of the State be put to beneficial use to the fullest extent of which they are capable." Obviously, this mandate requires a comparison of uses. As stated in *Tulare Dist. v. Lindsay-Strathmore Dist.* (1935) 3 Cal.2d 489, 567 [45 P.2d 972], "What is a beneficial use, of course, depends upon the facts and circumstances of each case. What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time."

In *Joslin v. Marin Municipal Water Dist.*, *supra*, 67 Cal.2d at page 141, the court noted the limited water resources available to the state, and that "conservation [must] be exercised 'in the interest of the people and for the public welfare.' " These cases, along with others which have been cited above, note the evolution of water rights from a concept of absolute right of use to one of comparative advantage of use. The fact that a diversion of water may be for a purpose "beneficial" in some respect (as for desalinization of lakes or generation of electric power) does not make such use "reasonable" when compared with

demands, or even future demands, for more important uses.

(g) *Excessive Mandates*

The tenor and taste of the appeal is that IID is being unfairly treated. It has occupied a position of strength, discretion and vested right in a geographical part of the country that is "far western," embracing a philosophy that is independent in every sense of the word. Recent trends in water use philosophy and the administration of water law have severely undermined the positions of districts such as IID. IID's core complaint, if not completely valid, is at least understandable. It has been deprived of a great deal of the property rights which it thought were inherent in its allocation of Colorado River waters, made many years ago by federal and state statute and private contract. The loss of these rights undoubtedly will result in practical and monetary losses for IID and its customers. An obvious conclusion is that Imperial I and the rulings of the Board have eroded IID's bargaining position in terms of the sale of its water to other districts, such as the Metropolitan Water District.

IID's reaction to these reversals in bargaining power takes form in recondite ruminations about philosophical legal principles, such as the separation of powers argument; and is also evidenced by simpler and more practical complaints about the length and breadth of the Board's injunction. While the superior court concludes that all the Board has really done is require a little planning of IID, IID's perception of the matter is wholly different, viewing the Board's actions as next to sinister. We deal in this section briefly with several practical complaints which we gather under the heading of alleged "excessive mandates."

IID reviews its past record of activities designed to conserve water, reminding that in the last 20 years or so it has constructed four reservoirs, evaluated cost effectiveness, lined 732 miles of canals, constructed 6 additional units for power production, initiated conservation studies, and achieved water use efficiencies which are above average for comparable projects. IID itself has recognized the desirability of water conservation by adopting in January of 1984 a resolution calling for reduction of inflow to the Salton sea by 100,000 acre feet annually. In light of this evidence of responsible water trusteeship, IID finds the Board's mandates (such as item 1.2 of the Board's order, that IID require its water users to repair defective tailwater structures by a certain date in 1985) to be excessive.

A specialized category of criticism leveled by IID is that the Board's broad injunction overlooks the principle that it should have selected a less drastic but practical remedy, characterized as "physical solution." A "physical solution" involves the application of general equitable principles to achieve practical allocation of water to competing interests so that a reasonable accomodation of demands upon a water source can be achieved. (See Hutchins, The California Law of Water Rights (1956) 351-354.) IID refers to the principle as a means of avoiding water waste without unreasonably or adversely affecting the rights of the parties (citing *City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 290 [123 Cal.Rptr. 1, 537 P.2d 1250]) and complains that the Board attempted no such practical resolution of this matter.

Finally, and mirroring other aspects of its presentation reflected above, IID complains that the Board, traditionally an investigative body and an arbiter of disputes

between parties, has switched roles and embraced an unreasonable position of sua sponte policing of independent water districts. The Board, IID claims, has become "derailed," the result of which is an overbroad order not supported by substantial evidence.

Referring first to the specific contention regarding "physical solution": we accept the Board's rejoinding analysis, as set forth on pages 28 and 29 of Decision 1600. The concept of a "physical solution" is the accommodation of competing interests by the making of a Solomon-like decision which satisfies, to some reasonable degree, everyone's interest. The sine qua non of a physical solution is the existence of specific conflicting demands which can be arbitrated. That is not the case here, and no simple or expedient "physical solution" is possible. We observe, however, that in many respects the Board's decision *is* a physical solution. Decision 1600 certainly addresses physical and practical problems, and attempts to achieve resolution of same by means which it has concluded IID has the power to achieve without unreasonable expenditures.

(9) Addressing the more general complaints of excessiveness, we can but refer to the function of this court, which is to review the record for substantial evidence supporting the trial court's affirmance of the Board. We have, we fear, already restated and reworked too much of the detail of this record. It is appropriate at this point to decline further recitation. Suffice it to say that the findings of the Board amply support the legal conclusions it made, as well as the orders it imposed. We have decided that the Board had jurisdiction to enter the field upon the legal and practical grounds it chose to occupy. Finding its conclusions and determinations to be well supported, we have no choice but to affirm them.

CONCLUSION AND DISPOSITION

The trial court's judgment is affirmed.

We note from IID's brief that it has "engaged for three decades in costly and critical litigation about its water rights." It asks that we reverse all the lengthy deliberations that have preceded our hearing and requests even again an "opportunity to more extensively brief the issue."

All things must end, even in the field of water law. It is time to recognize that this law is in flux and that its evolution has passed beyond traditional concepts of vested and immutable rights. In his review of our Supreme Court's recent water rights decision in *In re Water of Hallett Creek Stream System* (1988) 44 Cal.3d 448 [243 Cal.Rptr. 887, 749 P.2d 324], Professor Freyfogle explains that California is engaged in an evolving process of governmental redefinition of water rights. He concludes that "California has regained for the public much of the power to prescribe water use practices, to limit waste, and to sanction water transfers." He asserts that the concept that "water use entitlements are clearly and permanently defined," and are "neutral [and] rule-driven," is a pretense to be discarded. It is a fundamental truth, he writes, that "everything is in the process of changing or becoming" in water law.[5]

In affirming this specific instance of far-reaching change, imposed upon traditional uses by what some claim to be revolutionary exercise of adjudicatory power, we but recognize this evolutionary process, and urge reception and recognition of same upon those whose work

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[5]Freyfogle, *Context and Accommodation in Modern Property Law* (1989) 41 Stan. L.Rev. 1529, 1546-1547.

in the practical administration of water distribution makes such change understandably difficult to accept.

Work, Acting P. J., and Todd, J., concurred.

No. 58706

SUPERIOR COURT
OF THE
STATE OF CALIFORNIA
FOR THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,

v.

STATE WATER RESOURCES CONTROL BOARD,
Defendant and Respondent.

JUDGMENT AND ORDER

JOHN K. VAN DE KAMP,
Attorney General of the
State of California
R. H. CONNETT
Assistant Attorney General
M. ANNE JENNINGS
Deputy Attorney General
350 McAllister St., Room 6000
San Francisco, CA 94102
Telephone: (415) 557-0818
Attorneys for Defendant
and Respondent

Robert D. Zumwalt, Clerk
May 5, 1988
B. Rundle
Deputy

Jennings, Engstrand & Henrickson
May 18, 1988
Rec'd By _____

This matter came on for hearing before this Court on February 2 and 3, 1988, after remittitur from the Court of Appeal for the Fourth District, the Honorable James A. Malkus, Judge of the Superior Court of San Diego County, presiding by designation of the Judicial Council. The hearing was held by stipulation of the parties in Department 12 of the Superior Court in San Diego. Jennings, Engstrand & Henrikson by Paul D. Engstrand and Horton, Knox, Carter & Foote by J. Penn Carter appeared for petitioner Imperial Irrigation District. Attorney General John K. Van de Kamp by M. Anne Jennings, Deputy Attorney General, appeared for respondent State Water Resources Control Board and John Krautkraemer appeared for intervenor Environmental Defense Fund. Respondent and intervenor having filed a response to the petition, all parties having submitted written memoranda and made oral argument, the administrative record and additional evidence having been received and examined by the Court, the cause having been submitted for decision, and the Court having made, signed and filed its Statement of Decision.

IT IS HEREBY ORDERED, ADJUDGED and DECREED that:

1. The provisions of article X, section 2 of the California Constitution are applicable to the Imperial Irrigation District.

2. The State Water Resources Control Board had authority to conduct an administrative hearing on the reasonableness of the Imperial Irrigation District's water management practices and to make an administrative determination thereon.

3. The finding of the State Water Resources Control Board that continued diversions of water by the Imperial

Irrigation District, with the present level of losses and without a plan to reduce those losses, was a misuse of water in violation of article X, section 2 is supported by the weight of the evidence in the administrative record, applying the Court's independent judgment to the record.

4. The Board's order directing the District to repair defective tailwater structures, to implement a water accounting and monitoring procedure and to submit to the Board a detailed and comprehensive plan to remedy the loss of water is reasonable and is supported by the finding of misuse.

5. The petition for a writ of mandate is denied. The matter is remanded to the Board for a determination of new dates for compliance by the District with the Board's order.

Dated: May 5, 1988

JAMES A. MALKUS
JUDGE OF THE
SUPERIOR COURT

APPROVED AS TO FORM:

_____ for
ENVIRONMENTAL
DEFENSE FUND

_____ for
IMPERIAL IRRIGATION
DISTRICT

No. 58706

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SAN DIEGO

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,

v.

STATE WATER RESOURCES CONTROL BOARD,
Defendant and Respondent.

STATEMENT OF DECISION

This case is before the Court, by way of remittitur, for judicial review of "Water Rights Decision 1600" issued by the State Water Resources Control Board ("Board") on June 21, 1984. Review in this court is by way of writ of mandate, applying the independent judgment test.

These proceedings began when John Elmore, a farmer with lands bordering the Salton Sea, requested the California Department of Water Resources ("Department") to investigate several specific ways in which he alleged the water management and marketing practices of the Imperial Irrigation District ("IID" or "the District") resulted in a misuse of water. Elmore's primary concern was that excess irrigation return flow from lands within IID, together with water from spills and seepage from IID's canal system, had raised the level of the Salton Sea, flooding Elmore's lands. Elmore also requested the Board to hold a hearing on IID's alleged misuse of water following the Department's investigation.

The Department's investigation, completed in December 1981, concluded that large amounts of water were being lost to beneficial consumptive uses as a consequence

of IID's water management practices. The water losses were caused by such policies as ordering more water than could be used by the District's farmers and maintaining canals excessively full, which resulted in spills of water from canals, a lack of reservoirs to regulate and store incoming supplies of water, and the absence of effective tailwater recovery systems. The Department also concluded that additional water could be saved through lining of water delivery canals and the adoption of alternative irrigation methods. The Department Report estimated that approximately 438,000 acre-feet could be conserved annually.

Evidence presented during a six day hearing before the Board showed annual water losses of approximately one million acre feet, well over a third of all water delivered to IID. Although IID had adopted two water conservation programs, in 1976 and 1980, and had adopted a resolution to reduce inflow to the Salton Sea by 100,000 acre-feet of water a year, the State Board concluded that little had been done to implement these plans, and the District needed a comprehensive water conservation plan in order to promote effective water conservation. The District had failed to produce such a plan in the two and a half years since the Department's initial report.

The Board did not find that IID's uses of water, in themselves, were unreasonable. Rather, weighing all the circumstances, including other potential uses for Colorado River water, the Board found that continued diversions by IID, *with the present levels of losses and without a plan to reduce those losses,* was a misuse of water in violation of Article X, Section 2 of the state Constitution. The Board ordered IID to implement its announced policy of monitoring tailwater discharges, to require water users to repair defective tailwater recovery struc-

tures, and to develop a water accounting and monitoring procedure to quantify the amount of water actually reaching farmers and the amount lost through tailwater, canal spills, canal seepage and leaching. The Board did not require further specific measures, but required the District to submit a detailed and comprehensive plan setting forth how the District would propose to conserve water through various potential conservation measures, including reducing tailwater and canal spills, constructing regulatory reservoirs and lining canals.

In applying the independent judgment test, the trial court must determine if the weight of the evidence supports the Board's findings. CCP§ 1094.5(c). Weight of the evidence was held synonymous with preponderance of the evidence in *Chamberlain v. Ventura County Civil Serv. Comm'n* (1977) 69 Cal.App.3d 362, 368. The case of *Ettinger v. Board of Medical Quality Assurance* (1982) 135 Cal.App.3d 853, cited by Petitioner for the proposition that clear and convincing proof of misuse of water is required to support the Board's findings, is not applicable to these facts.

This Court has reviewed the lengthy record herein in great detail. Applying its independent judgment, the Court finds that the evidence amply supports the Board's finding that the District's failure to implement additional water conservation measures is unreasonable and constitutes a misuse of water under Article X, Section 2 of the California Constitution and Section 100 of the California Water Code.

While the Court agrees that the primary responsibility for evaluating and implementing potential water conservation measures for IID lies with the District itself, it is the Board (along with the Department) which is charged with the responsibility of preventing the misuse of water.

Water Code § 275. Furthermore, recent decisions have recognized a "broad", "open-ended", "expensive" authority on the part of the Board to undertake comprehensive planning and allocation of the State's water resources. *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 449, citing to *In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 348-349, 350, fn. 5, and *People v. Shirokow* (1980) 26 Cal.3d 301, 309. Indeed, as the Court stated in *United States v. State Water Resources Control Board* (1986) 182 Cal.App.3d 82 at Page 129, "All water rights, including appropriative, are subject to the overriding constitutional limitation that water use must be reasonable. . . ." To that end, the Board is empowered to institute necessary judicial, legislative or administrative proceedings to prevent waste or unreasonable use. . . ."

The Board looked at all the relevant aspects of IID's operations and concluded that a continuation of IID's present practices, in the face of massive, correctable losses, substantial property damage from flooding and other potential uses for the water, constituted a misuse of water. This Court agrees with that determination.

Water Rights Decision 1600 is a reasonable and balanced directive for achieving compliance with Article X, Section 2. It is well supported by the finding of misuse. It should be noted that, except for requiring the District to repair defective tailwater structures, Decision 1600 itself requires no specific conservation measures, nor does it compel IID to sell, transfer, or otherwise convey water to the Metropolitan Water District or any other party. Decision 1600 simply requires the District to prepare plans to remedy its misuse of water, while retaining jurisdiction to review the adequacy of IID's plans. This is appropriate.

The writ of mandate is denied, and this matter is remanded to the State Water Resources Control Board for determining new dates for compliance by IID with the Board's order for IID to implement its announced policy of monitoring tailwater discharges, to require water users to repair defective tailwater recovery structures and to develop a water accounting and monitoring procedure to quantify the amount of water actually reaching farmers and the amount lost through tailwater, canal spills, canal seepage and leaching and for the submission of a detailed and comprehensive plan setting forth how the District would propose to conserve water through various potential measures, including reducing tailwater and canal spills, constructing regulating reservoirs and lining canals.

Dated: April 13, 1988

JAMES A. MALKUS
Judge of the Superior Court

No. 58706
IN THE SUPERIOR COURT
OF
THE STATE OF CALIFORNIA
IN AND FOR
THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,
vs.
STATE BOARD RESOURCES CONTROL BOARD,
Defendant and Respondent.

J. PENN CARTER
REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE
Attorneys at Law
895 Broadway, Suite 101
El Centro, California 92243
Telephone: (619) 352-2821

PAUL D. ENGSTRAND
RICHARD G. OPPER
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation
2255 Camino del Rio South
San Diego, California 92108
Telephone: (619) 557-7800
Attorneys for Plaintiff and Petitioner
IMPERIAL IRRIGATION DISTRICT

August 3, 1988
John W. Kennerson, County Clerk
Lisa A. Benavidez, Deputy

NOTICE OF APPEAL

NOTICE IS HEREBY GIVEN THAT plaintiff and petitioner, Imperial Irrigation District, hereby appeals from the judgment and order filed herein on May 5, 1988 in favor of defendant and respondent, State Water Resources Control Board, and from the order denying plaintiff and petitioner's motion for new trial and motion to vacate judgment filed herein on July 8, 1988.

Dated: August 3, 1988

HORTON, KNOX, CARTER & FOOTE
and
JENNINGS, ENGSTRAND &
HENRIKSON
A Professional Law Corporation

By J. PENN CARTER
J. Penn Carter, Attorneys for
Plaintiff and Petitioner

ORDER: WR 88-20

COUNTY: Imperial

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of
WASTE AND UNREASONABLE USE OF WATER
BY IMPERIAL IRRIGATION DISTRICT.

ORDER TO SUBMIT PLAN AND
IMPLEMENTATION SCHEDULE FOR
WATER CONSERVATION MEASURES

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ORDER: WR 88-20

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STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
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FOR WATER CONSERVATION MEASURES

BY THE BOARD:

1.0 INTRODUCTION

The State Water Resources Control Board (Board) having issued Water Right Decision 1600 on June 21, 1984; Decision 1600 having found that the operational practices of the Imperial Irrigation District (IID or District) result in a misuse of water in violation of Article X, Section 2 of the California Constitution and Section 100 of the California Water Code; the Board having ordered that IID take specified measures to conserve water including the development of a comprehensive water conservation plan and implementation schedule; the Board having conducted further hearings on May 5, 1987 and March 30 and 31, 1988 to receive evidence regarding the status of IID's water conservation program and plans; IID and other interested parties having appeared and

presented evidence; the evidence having been duly considered by the Board; the Board finds as follows:

2.0 BACKGROUND

2.1 *Decision 1600 and Related Litigation*

The Board's involvement in evaluating water use and the potential for water conservation in Imperial Irrigation District began with the filing of a complaint with the Board and the Department of Water Resources alleging waste and unreasonable use of water. Following investigation of the complaint, and failure to resolve the matter with IID, the Department of Water Resources referred the complaint to the Board for hearing. Based on the record developed at the hearing in September and December of 1983, the Board issued Decision 1600 on June 21, 1984. Decision 1600 reviewed the issues raised at the hearing concerning the operations of IID, the causes and quantity of water losses in IID, and the potential for reducing water losses through implementation of water conservation measures. The decision acknowledged efforts of IID and many individual farmers to conserve water, but it found that there were additional practical water conservation measures available and that the failure to implement such measures resulted in a misuse of water in violation of Article X, Section 2 of the California Water Code. IID was directed to submit evidence regarding tailwater monitoring, to repair or require the repair of defective tailwater structures, to submit a plan for resuming construction of regulatory reservoirs, to develop an improved water accounting system and to prepare a comprehensive water conservation plan specifying a schedule of implementation and method of financing for selected water conservation measures.

Following the Board's denial of a petition for reconsideration, IID filed suit challenging the Board's jurisdiction to adjudicate the reasonableness of IID's water usage under pre-1914 appropriative rights. The Superior Court ruled that Decision 1600 had no binding legal effect on IID. On November 4, 1986, however, the Court of Appeal upheld the Board's jurisdiction to adjudicate issues concerning the alleged waste or unreasonable use of water and to enter orders requiring corrective action where a misuse of water is determined to exist. (*Imperial Irrigation District v. State Water Resources Control Board,* (1986) 186 Cal.App.3d 1160, 231 Cal.Rptr. 283.) The California Supreme court denied IID's petions for review and the case was remanded to Superior Court for determination of whether the evidentiary record supported issuance of Decison 1600.

On April 13, 1988, the Superior Court entered a Statement of Decision which concluded that the evidence amply supports the Board's finding that the failure of IID to implement additional water conservation measures is unreasonable and constitutes a misuse of water. The court also concluded that the Board had looked at all relevavant aspects of IID's operations and declared that Decision 1600 is a reasonable and balanced directive for achieving compliance with Article X, Section 2 of the State Constitution. The court remanded the matter to the Board for establishing a new schedule for complying with Decision 1600. IID's motion for a new trial was denied on July 8, 1988.

2.2 *Subjects Addressed at Hearing on March 30 and 31, 1988*

No action was taken to enforce the requirements of Decision 1600 pending resolution of the litigation con-

cerning the Board's jurisdiction. A hearing was held on May 5, 1987 to receive a status report from IID on water conservation measures. A more extensive hearing was held on March 30 and 31, 1988 to receive evidence regarding: (1) the status of IID's 1985 Water Conservation Plan; (2) additional water conservation studies or programs which have been initiated or completed since adoption of the 1985 Water Conservation Plan; (3) the priority in which identified water conservation measures would be implemented; (4) the economic feasibility and sources of funding for water conservation measures; (5) the schedule for implementing particular water conservation measures; (6) estimates of other water users' present and future needs for water which is made available as the result of IID water conservation; and (7) the anticipated effects of water conservation in IID upon beneficial uses of the Salton Sea.

3.0 STATUS OF IID WATER CONSERVATION PROGRAM

3.1 *Ongoing Water Conservation Measures*

Imperial Irrigation District is involved in numerous water conservation projects. With respect to the repair of defective tailwater structures required by Decision 1600, IID notified all farmers within the District to repair defective tailwater structures or the District would repair the structures at the farmers' expense. The District also maintains an ongoing program of notifying farmers of faulty tailwater structures which do not allow for accurate water measurement. Testimony from District personnel and farmers indicates that the program is effective.

With respect to monitoring tailwater discharges, the District provided evidence indicating that, for 1987, District personnel monitored 91.7 percent of water deliveries

of one cubic foot per second or greater. Deliveries for smaller amounts of water are normally for stockwater or rural domestic use which seldom have any tailwater. The Board concludes that the evidence presented substantially complies with the provisions of Decision 1600 directing IID to submit evidence regarding the extent of tailwater monitoring.

With respect to developing an improved water accounting procedure as directed by Decision 1600, the District introduced evidence regarding its Water Balancing Accounting — Delivery Accounting Program which records the amount of water actually delivered at the farmers' headgates rather than simply the amount of water ordered as was done previously. The District also has implemented a program to make measurements of canal spills, deliveries to lateral headgates, field deliveries, tailwater discharge, and tile drainage at various locations throughout the District. A sampling method was utilized to develop a water balance for the District based on information from continuous water recorders placed at various randomly selected locations. Although development of the water accounting procedure is not complete, the evidence indicates that the District is making reasonable progress toward developing a comprehensive water accounting program as directed by Decision 1600.

After entry of Decision 1600, IID applied for a low interest loan to construct an additional regulatory reservoir which it estimates will conserve 4,100 acre-feet per annum of direct operational discharge plus 500 acre-feet per annum of additional water conserved due to operational flexibility. The reservoir is scheduled to be in operation in August or September of this year. The District also has plans for another regulatory reservoir to be located adjacent to the East Highline Canal. Further

construction of regulatory reservoirs appears to be closely related to the development and implementation of the District's overall water conservation plan as discussed below.

Other ongoing water conservation programs referred to in the record include continuation of the District's concrete lining of canals, a demonstration tailwater recovery program, operation of seepage recovery systems along portions of the East Highline Canal and All-American Canal, and participation in a cooperative study with the U.S. Bureau of Reclamation to determine the cost effectiveness of lining the East Highline Canal. The rate of concrete lining of canals, however, has decreased substantially in recent years due to budget limitations. (IID, 10, Table 14; T,I,113:22-115:23).[1]

3.2 *Development of Water Conservation Plan*

IID presented testimony that its present water conservation plan is composed of a number of studies and reports developed over the last several years. These documents include the 1985 Water Conservation Plan and 1985 Supplement, the 1985 Water Requirements and Availability Study, the 1985 Water Transfer Study, and the 1986 and 1987 Water Conservation Activities and Update reports. In addition, IID has prepared an Environmental Impact Report on the proposed Water Conservation Program and Initial Water Transfer Study as well

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[1]Citations to exhibits in the record are indicated by the abbreviation of the party submitting the exhibit, the exhibit number, and the number of the page, table or figure within the exhibit. Citations to the hearing transcript are indicated by a "T" followed by the volume number, the beginning page and line number and the ending page and line number.

as a very recent Water Conservation Implementation Plan.

The 1985 Water Conservation Plan discusses District operations and on-going IID water conservation programs. The plan also specifies a number of long-term water conservation goals including additional concrete lining of District canals, replacing canals and drains with pipelines in cities and towns, construction of an 8,000 acre-foot reservoir near the East Highline Canal, construction of up to ten regulatory reservoirs of 200 to 500 acre-feet each, installation of automated remote system control and data acquisition devices at numerous locations, construction of spill collector systems and seepage recovery systems, use of computerized water delivery scheduling, collection and distribution of weather and soil data for farmers' use in scheduling water orders, cooperation in providing information on irrigation and tailwater recovery systems to farmers, continuation of on-farm improvements, implementation of irrigation management programs by farmers and installation of tailwater recovery systems. The long-term goals outlined in the plan are subject to funding availability. Consequently, no firm schedule is established for implementation of most specified conservation measures.

The 1986 and 1987 Water Conservation Activities and Updates reports provide information on changes in conditions and modifications to the plan made in each year. The Water Requirements and Availability Study was undertaken to identify the District's potential water supply needs and to determine the amount of water that could be conserved and made available for other uses.

The 1985 Water Transfer Study prepared for IID by Parsons Water Resources, Inc. examined a number of factors to determine the most likely candidates for a

water transfer arrangement with IID. Factors considered include current and projected water supply and demands, feasibility of a water transfer, and benefits to both the transferor and the transferee. The study identified Metropolitan Water District, San Diego County Water Authority, and Kern County Water Agency as the three most likely candidates for entering into a water transfer arrangement. Of those three agencies, Metropolitan Water District (MWD) was determined to be the "most suitable candidate" because it has the necessary facilities and conveyance capacity, its receipt of additional water would benefit a number of water agencies in the south coastal region of the State, it has an existing contract for Colorado River water and it is familiar with the water contract administration policies of the U.S. Department of the Interior. (IID, 8, p. ES-5). The Water Transfer Study concluded that IID should negotiate an initial water transfer agreement with MWD that would make additional water available for diversion into the Colorado Aqueduct System. The initial transfer would involve water made available as a result of previously implemented conservation measures. The study recommends that additional water transfer agreements with MWD should follow as further water conservation occurs. In the event a water transfer cannot be negotiated within a reasonable time, the study recommends that a transfer to the San Diego Water Authority be negotiated.

Based on the information from the various water conservation documents prepared over the last few years, IID recently developed a Water Conservation Implementation Plan which is discussed in Section 5 below. The Environmental Impact Report for the proposed IID water conservation program is discussed in Section 7.

4.0 NEED FOR WATER CONSERVATION

4.1 *Possible Increase in Water Demand Within IID*

Implementation of water conservation measures in IID could make a substantial amount of water available for other uses, either within the District or elsewhere. Some of the water made available through water conservation may be required for increased leaching in IID to prevent salt build-up in the soil. Other factors which may increase IID's demand for water include the possibility of irrigating additional acreage, increased use of double cropping, and increased municipal demands. Imperial Irrigation District estimates that implementation of its proposed water conservation plan would result in conservation of 367,900 acre-feet per annum, in addition to water savings already achieved. IID proposes to transfer 250,000 acre-feet per year, holding the remainder in reserve to cover future water needs in the Imperial Valley. (T,I,56:10-56:17).

4.2 *Metropolitan Water District of Southern California*

As noted in Section 3.2 IID's 1985 Water Transfer Study concluded that IID should negotiate a water transfer agreement with MWD. The projected water demands for MWD and the basis for those projections are explained in MWD Exhibit 12. As the result of wet conditions on the Colorado River since 1983, MWD has been able to divert close to the 1.3 million acre-foot capacity of its Colorado River aqueduct in each of the last five years. (T,II, 339:17-19). Due to the development of the Central Arizona Project and other factors, however, the quantity of Colorado River water available for diversion by MWD on a dependable basis will be restricted to the quantity available under its fourth priority right to 550,000 acre-feet per annum. This quantity is reduced further by

approximately 30,000 acre-feet per annum due to current levels of use by other holders of present perfected rights. There is a possibility of additional reductions in the quantity of water available to MWD due to increased use by Indian tribes. (MWD, 2, p. 22). The Central Arizona Project began deliveries in 1985 and is expected to utilize its full apportionment in about 1992. (T,II,340:11-340:16). Without the development of additional supplies the record indicates that MWD faces a potential systemwide shortfall during dry periods of 560,000 acre-feet per annum by the year 2000, increasing to 980,000 acre-feet per annum by 2010. (MWD, 12, pp. 1, 13; MWD, 15, p. 2).

4.3 *Coachella Valley Water District*

Imperial Irrigation District, Coachella Valley Water District (CVWD), Palo Verde Irrigation District and the Yuma Project collectively hold rights to divert 3.85 million acre-feet per annum from the Colorado River. CVWD introduced evidence of water usage by the four agencies showing that in 5 of the last 28 years, the 3.85 million acre-feet per annum limitation was exceeded. If excess Colorado River water had not been available, CVWD would have faced shortages ranging from 8,000 to 232,000 acre-feet. (T,II,439:17-440:8; CVWD, 3). The estimated water shortages to CVWD are based upon the assumption that the water savings resulting from lining 49 miles of the Coachella Canal were in effect. (T,II,439:24-440:1).

Based upon the evidence of past water usage, CVWD contends that additional water conservation in IID is necessary to ensure that CVWD water demands can be met within the 3.85 million acre-feet apportionment of the four agricultural agencies. However, CVWD Exhibit 3 shows that since 1982, annual Colorado River water use of the four agencies has been below their 3.85 million acre-

feet entitlement. No evidence was presented explaining the reasons for the reduction in water use in recent years or showing the extent to which additional water conservation measures will be required in order to stay within the 3.85 million acre-feet entitlement.

4.4 *Effect of IID Water Conservation on Water Available to Other Areas*

Imperial Irrigation District initiated negotiations with Metropolitan Water District in March 1984 to develop a water conservation funding program. (MWD, 8) As noted above, the 1985 Water Transfer Study prepared for IID also identified Metropolitan Water District, along with San Diego County Water Authority and Kern County Water Agency as the three most likely candidates to enter into a water transfer agreement with IID. Neither San Diego County Water Authority nor Kern County Water Agency appeared at the Board hearing nor was any evidence presented to establish that either agency is seeking to negotiate a water transfer with IID. As a member agency of MWD, however, the San Diego County Water Authority would benefit by a water transfer arrangement which increases the overall reliable water supply available to MWD.

Although no evidence was presented of other major water users seeking to acquire water from IID, the State Water Contractors produced testimony showing how a transfer of water to MWD could increase the supplies available to other State Water Project (SWP) water users by reducing the demands of MWD for water from the SWP. (T,I,11:24-22:3) The State Water Contractors is a nonprofit corporation representing 28 of the 30 public agencies that purchase water from the SWP which together hold a contractual entitlement to 99.3 percent of

SWP water delivery obligations. (T,I,10:21-11:1). The agencies represented by the State Water Contractors are located throughout the State ranging from Butte and Plumas Counties in the north to parts of San Diego, Riverside and Imperial Counties in the south. (SWC 3, Figure 1). Approximately 17 million people get at least a supplemental supply of water from the SWP. (T,I,11:12-11:13).

Utilizing existing facilities, the SWP can deliver a dependable water supply of 2.2 million acre-feet per annum to the State Water Contractors in 1990 declining to 2.1 million acre-feet per annum by the year 2000 as water use in Northern California increases. (MWD, 2, p. 23). The State Water Contractors demands in the current year are about 2.6 million acre-feet per annum. (T,I,13:13-15:15). If there were no surplus water available to MWD from the Colorado River, however, the State Water Contractors' demand for SWP water would increase to about 3.1 million acre-feet per annum, a demand which could not be met about 50 percent of the time with existing facilities. (T,I,13:4-13:24).

State Water Contractors' Exhibit 2 projects total SWP demand of about 3.6 million acre-feet per annum in the year 2010. With existing facilities capable of delivering a dependable supply of 2.1 million acre-feet per annum, a demand of 3.6 million acre-feet per annum would result in shortages to the State Water Contractors of about 1.5 million acre-feet per annum in dry years. The Department of Water Resources Bulletin 160-87 projects a SWP demand of 3.6 million acre-feet per annum in the year 2010 assuming that 250,000 acre-feet of water conserved in the Colorado River region becomes available for use in the South Coast region. (Staff 1, p. 43).

4.5 *Summary of Evidence Regarding Need for Water Made Available Through IID Water Conservation*

The Colorado River Aqueduct will soon have substantial excess capacity due to the reduced quantity of Colorado River water available to California water users. The fact that IID and MWD have been actively negotiating to arrange a water transfer provides strong evidence that there is a demand for water which could be made available through IID water conservation. To the extent that MWD could obtain a portion of the water made available by IID water conservation, its demand for water from the State Water Project would be reduced, thereby increasing supplies available to other SWP water users and reducing pressure for development of additional water supplies.

The evidence presented clearly establishes that California water users have a need for substantial additonal water supplies and that additional water conservation in IID presents a feasible means of meeting a portion of that demand. The implementation plan set forth in Scenario No. 1 of IID Exhibit 25 proposes a series of water conservation measures which would enable IID to make 250,000 acre-feet per annum available for use by another water user 11 years after the plan is implemented. In making projections of future statewide water demand in Bulletin 160-87, the Department of Water Resources assumed that a transfer of 250,000 acre-feet per annum of water to other water users would occur due to IID water conservation. (Staff, 1, p. 41). The evidence presented at the Board hearing confirms that a transfer of this quantity of water would assist in meeting the identified future demands of California water users.

5.0 IID'S PRESENT IMPLEMENTATION PROPOSALS FOR WATER CONSERVATION PLAN

IID has developed an implementation plan which presents a strategy for implementing those elements of its 1985 conservation plan which the District considers could be efficiently executed in a cost-effective manner. The implementation plan covers all proposed water conservation projects that are planned to be accomplished over the 35-year period beginning in 1989. The projects include those that are part of the District's system and on-farm projects to be implemented by the farmers at the District's expense. The District intends to review the plan periodically and modify it to reflect new technology developed in implementing the various conservation proposals.

The major elements of the implementation plan are described in IID Exhibit 25. The plan includes the following elements:

(1) Canal lining.

(2) Construction of regulatory reservoirs.

(3) Installation of nonleak gates on canals.

(4) Recovery of operational discharge (canal spills).

(5) Automation of the water delivery system.

(6) A study of water level fluctuation in lateral canals to assist in developing system automation strategies.

(7) Farmer incentive programs to encourage water conservation.

(8) Tailwater monitoring and excess tailwater assessments.

(9) Program planning and design work.

(10) Irrigation water management program to improve on-farm practices.

(11) Installation of tailwater pumpbacks.

(12) Farmer incentive payments to encourage installation and use of tailwater pumpbacks.

(13) Salinity production loss payments to farmers using tailwater pumpbacks.

(14) Land leveling to improve irrigation efficiency and reduce tailwater.

(15) Reimbursement of hydropower revenues lost due to reduced water diversions.

(16) Establishment of a salinity control fund to finance yet to be identified salinity control measures.

(17) Environmental mitigation studies and programs.

(18) Construction of evaporation ponds to maintain Salton Sea salinity at an acceptable level.

(19) Legal contingency fund.

Implementation of the program elements described above would result in a comprehensive water conservation program and improvement in District operations. IID estimates that implementation of proposed programs with each of the elements identified above could occur over the next 35 years and would result in conserving 367,900 acre-feet per annum upon completion of the program. (IID, 25, Appendix A, Scenario No. 1).

Based on information from the Parsons Water Resources, Inc., report, however, it appears that the estimated quantity of water to be conserved through use of on-farm pumpback systems should be carefully reviewed. It appears that the conservation potential of the tailwater

pumpback systems may have been overestimated if such systems are to be implemented in conjunction with other water conservation measures which would assist in reducing tailwater. The Board also notes that items 12 and 13 are proposed as incentives or compensation for farmers participating in installation and use of tailwater recovery systems. Some farmers, however, have voluntarily installed tailwater pumpbacks at their own expense. Therefore, it is unclear from the record whether items 12 and 13 would be necessary for widespread use of tailwater recovery systems. If the incentive and compensation programs of items 12 and 13 are necessary, then the cost of such programs should be considered together with the tailwater pumpback installation cost to provide an accurate indication of the total cost of tailwater recovery systems.

It should also be recognized that the salinity control fund as identified in item 16 above may be required to deal with salt build-up in the soil and expected increases in Colorado River salinity whether or not an expanded water conservation program is implemented.[2] To the extent that a salinity control program is needed even in the absence of further water conservation measures, the cost of such a program should not be considered as part of the cost of water conservation.

Potential sources of funding for an expanded water conservation program are discussed in Section 6 below. In order to secure adequate funds to implement a proposed conservation program, it will be important for IID to calculate as closely as possible the quantity of water

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[2]In addition to salinity control measures which IID may implement, the problem of high salinity levels in the lower Colorado River has been the subject of a basin-wide program to control and reduce sources of salinity in upstream areas.

expected to be saved and the costs which will be incurred in implementing the program. If IID were to implement all 19 elements of its present implementation plan as set forth in Exhibit 25, the District estimates that upon completion of the program it could conserve 367,900 acre-feet per annum at a total cost over 35 years of $3,350,571,578. A second scenario set forth in IID Exhibit 25 calls for full implementation of some of the programs discussed above, partial implementation of others, and no implementation of the remaining elements. This scenario was analyzed for the same 35-year period at a total cost of $729,013,416. Upon completion, the program identified in the second scenario is estimated to conserve 104,823 acre-feet of water per annum. (IID, 25, Appendix A, Scenario 2).

The documents described in Section 3.2 above provide an extensive amount of valuable information for use in developing a comprehensive water conservation plan. They set forth what has been termed a "menu" from which to select the desired water conservation measures. Based upon the selections from the menu, IID Exhibit 25 sets forth what the District considers to be an "ideal program" which includes all feasible water conservation projects identified in previous studies. (T,I,49:7-49:24). The inability of the District to provide or secure adequate funding for its proposed water conservation program, however, has delayed widespread implementation of specified measures.

6.0 SOURCES OF FUNDING FOR INCREASED WATER CONSERVATION

6.1 *Imperial Irrigation District Funding*

Funding for IID water conservation measures implemented to date has come primarily from revenues gener-

ated by District water sales. (IID, 3, pp. ES,9, VI.8). The 1985 IID Water Conservation Plan states that future expenditures on water conservation will be at the maximum level commensurate with funding capabilities, including revenues derived from sales of water. (IID, 3, pp. VI.9 and VI.10). Other sources of funding which IID may consider in the future include loans, bond sales, and increased rates or assessments. (IID, 3, p. VI.9).

There was little evidence introduced on the financial feasibility of IID funding a substantially expanded conservation program in the absence of external funding. Currently, IID assesses a $1.00 per acre-foot charge on water deliveries to finance water conservation measures. (T,I,100:12-24). Between 1980 and 1986, the portion of water charges allocated to conservation was $1.75 per acre-foot, but it declined to $1.00 per acre-foot in 1987 due to District budget considerations. (T,I,100:20-101:10). Evidence was presented indicating that IID spends 10 percent of its water budget on water conservation. (IID, 31, p. 11; T,I,58:10-12).

Although no detailed information was requested or offered regarding the economic condition of agriculture in the Imperial Valley, there were a number of general statements presented stressing that the farmers in IID are experiencing economic hardship. In addition, the Water Conservation Advisory Board presented extensive testimony on the unique problems facing farmers in IID and the fact that their real water costs substantially exceed the $10/acre-foot charged by the District. (T,I,247:9-25; T,I,258:13-259:17). The position of the District and the farmers is that the farmers cannot afford substantially higher water rates to underwrite water conservation measures. (T,I,482:9-483:13, T,I,222:17-21; T,I,224:18-225:2).

Information in the 1985 Water Conservation Plan shows that the IID 1985 budget was composed of total expenditures of nearly $104 million, approximately $23 million for water operations and $81 million for power. Total estimated revenue was "slightly over $105 million", of which approximately $23.4 million was from Water Department operations. Thus, over 75 percent of IID revenue and expenditures are tied to sale and production of electrical energy. (IID, 3, pp. II.20, II.21). The possibility of funding water conservation measures with revenues generated by power sales was not addressed in the evidence presented. If a different method of funding additional water conservation in IID is not established and implemented in the near future, the possibility of funding certain conservation measures with revenue from electrical power sales should be investigated.

6.2 *External Sources of Funding for IID Water Conservation*

Several existing and potential external sources of funding for water conservation measures within IID were identified at the hearing. These sources are discussed below.

6.2.1 *State and Federal Financial Assistance*

IID has pursued a variety of state and federal programs to provide funding for water conservation measures and studies. The USBR has assisted with an irrigation scheduling program which, since 1981, has involved 52,423 acres and monitoring of over 7,000 irrigations. (IID, 31, pp. 4, 5; IID, 15). IID also cooperated with the USBR's preparation of a lengthy report entitled "Water Conservation Opportunities, Imperial Irrigation District, Special Report", July 1984. (IID, 26). State funding was obtained through the Clean Water Bond Law

of 1984 for construction of the Trifolium Reservoir and nearby canal lining. (T,I,45:8-10). In addition, IID has applied to DWR for low interest loans for several other water conservation projects. (T,I,45:10-15). IID also has applied for a loan authorized by the Water Conservation and Water Quality Bond Law of 1986 to fund a feasibility study of large evaporation ponds as a means of limiting the increase in Salton Sea salinity levels. (T,I,46:18-47:2). These and a number of other programs and studies identified at the hearing demonstrate that IID has utilized state and federal funding and assistance where available. There was no evidence introduced, however, of any state or federal programs which could provide sufficient funding to implement comprehensive water conservation programs of the type proposed in IID's water conservation plan and related documents. (IID, Exhibits 3, 4, 5, 12, and 25).

6.2.2 *Metropolitan Water District*

The 1985 Water Transfer Study by Parsons Water Resources identifies MWD as the most likely candidate for a program involving the transfer of water in exchange for water conservation improvements. (IID, 8, p. ES-5). MWD presented written and oral testimony that it would be willing to pay "all reasonable costs" of implementing water conservation measures in IID in exchange for use of the water made available through such conservation. (MWD, 15, pp. 1 and 2; T,II,349:25-353:4).

In July of 1985, the negotiating teams from IID and MWD reached a memorandum of understanding which envisioned an initial transfer of 100,000 afa for use in MWD for a period of 35 years in exchange for MWD paying $10 million per year into an IID water conservation fund for a period of 38 years. Payments to the conservation fund would begin three years before the

initial transfer of water, resulting in an average payment of $109 for each acre-foot of water transferred. (T,II,286:17-293:3; MWD, 9a). Following the rejection by the IID Board of Directors of the memorandum of understanding, the IID/MWD negotiations have continued, but no agreement has been reached. Both districts submitted evidence indicating that the primary obstacle which has prevented a water transfer agreement is disagreement over the costs of implementing an expanded water conservation program. (IID, 31, p. 14; MWD, 15, p. 2). Exhibits and testimony presented at the hearing illustrate the differences in the two districts' views of the reasonable costs of implementing a water conservation program. IID Exhibit 25 sets forth a scenario for transferring 250,000 acre-feet per annum to MWD at a cost per acre-foot of $288.60. (IID, 25, Appendix A, Scenario 1). As an alternative, IID proposes a transfer of 100,000 acre-feet per annum at a cost per acre-foot of $175. (IID, 25, Appendix A, Scenario 2).

Based on information from the 1985 Water Requirements and Availability Study (IID, 6), MWD Exhibit 11 sets forth a proposed water conservation program of 114,000 acre-feet per annum at a cost per acre-foot of $64.00. (MWD 11, Figures 1 and 2; T,II,311:1-312:25). MWD also proposed an alternative set of water conservation measures intended to save 267,000 acre-feet per annum at a cost per acre-foot of $78. (MWD, 11, Figures 3 and 4; T,II,311:1-312:25).

The substantial differences in cost estimates of IID and MWD are due to several factors. First, IID's position is that if IID assumes the risk of providing an assured supply to MWD, then MWD should pay the entire costs of the conservation program rather than just a percentage of the costs based on the amount of water transferred.

(T,II,515:5-13). MWD responds that it is not equitable for it to pay the entire cost of a program estimated to conserve 367,900 acre-feet per annum if MWD would receive a maximum guaranteed amount of 250,000 acre-feet per annum.

A second difference between the IID and MWD water conservation cost estimates is due to differences in the specific conservation measures proposed by each district. MWD proposes a program which would implement the most cost-effective measures whereas IID's Exhibit 25 sets forth what IID considers to be an "ideal program" which includes all feasible water conservation projects identified in previous studies. (T,I,49:7-24). MWD rejects some of the proposals identified in Scenario 1 of IID Exhibit 25 on the basis of excessive costs. IID responds that is is important that the program be implemented systematically and that effective implementation of some of the more cost-effective projects would not be feasible without also implementing certain of the more expensive projects. Focusing on the more cost-effective projects identified by MWD would result in reducing the unit cost of each acre-foot of water conserved, but it would also reduce the overall amount of water conservation.[3]

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[3]It should be noted that 51,000 acre-feet per annum of the difference between the water savings projected for IID's 367,900 acre-feet per annum program and MWD's 267,000 acre-feet per annum program is attributable to the projected water savings from lining the All-American Canal between Pilot Knob and Drop 1. Both districts agree that such a conservation measure should be undertaken. IID proposes that the project be included in its overall water conservation program, with construction beginning 10 years after program implementation begins. (IID, 25, Appendix A, Scenario 2). MWD, on the other hand, supports federal legislation which would authorize lining of the All-American Canal from Pilot Knob to Drop 4 by any of the existing California agencies receiving water deliveries from the Colo-

A third major area of disagreement between the cost estimates of IID and MWD involves indirect costs such as environmental mitigation measures, potential litigation expenses, and reduction in hydropower generation. The programs proposed in Scenario 2 of IID Exhibit 25 include allowances for numerous identified indirect costs of an expanded water conservation program, including environmental mitigation, litigation contingencies, hydropower replacement, farmer incentives, and evaporation ponds to maintain the salinity of the Salton Sea at a viable level for survival of the fishery. (IID, 25, Appendix A, Scenario No. 2). In contrast, the costs shown for the program described in MWD Exhibit 12 include capital costs and operations and maintenance expenses but do not include a separate allocation of expense for each of several indirect costs identified in the IID proposal. This is apparently due to the contention that some of the indirect costs included in the IID proposal are unrelated or only marginally related to water conservation. (MWD, 14, p. 8).

A fourth difference in the cost estimates of the two districts is due to the completion of additional studies. The cost estimates set forth in MWD Exhibit 11 are based upon the estimates of Parsons Water Resources, Inc. which were prepared for IID in 1985. (MWD, 11, p. 1). The cost estimates for the proposals described in IID Exhibit 25 reflect additional studies by IID and recent changes which have reduced the operations and maintenance expenses required for the present system. (T,II,509:5-511:13).

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rado River. (MWD, 13, p. 7). Thus, MWD is interested in obtaining additional water due to lining the All-American Canal, but it appears that MWD would prefer to undetake that project independently from any water transfer agreement with IID.

The large differences in the IID and MWD cost estimates for a water conservation program are due to the factors identified above and other factors identified in the testimony and exhibits. Due to the parties' inability to negotiate a mutually acceptable agreement to date, MWD requests that the Board select specific water conservation measures to be implemented, formulate financing for the selected measures, establish a schedule for complying with requirements of the California Environmental Quality Act and National Environmental Policy Act, and establish a schedule for implementing selected measures. (MWD, 15, p. 5). If the Board or a court were to attempt to formulate the details of an IID water conservation program as suggested by MWD, detailed analysis of the economic costs of such a program would be required. Although the differences in the conflicting cost estimates could be resolved by the Board or a court in appropriate circumstances, resolution of that issue is beyond the scope of this order.

6.2.3 *Other Sources of Funding*

Another source of funding for additional water conservation by IID is payment received from parties located near IID who wish to obtain a supply of water from the District. IID recently completed a contract with IT Corporation in which IID agreed to supply 100 acre-feet per annum for $250 per acre-foot. IID reports that it has been approached by two other potential water users for similar contracts to supply 250 and 5,000 acre-feet per annum, respectively. (IID, 31, p. 11). With the exception of the IID/MWD negotiations, however, there was no evidence presented of any potential agreements to supply water to water users outside IID's boundaries which would provide sufficient funding for all or a major portion of the

various water conservation measures proposed in IID Exhibits 3, 4, 5, 12, and 25.

7.0 ENVIRONMENTAL CONSIDERATIONS

7.1 *Salton Sea*

The Salton Sea Basin is a low-lying, rather flat desert basin largely surrounded by moutains. It includes the Coachella Valley and the Imperial Valley, which are separated by the Salton Sea, and part of the Mexicali Valley south of the Mexican border. Elevations in the basin vary from about 2,000 feet at the northwest end of the upper Coachella Valley, to a low of 278 feet below sea level at the bottom of the Salton Sea. (Staff, 12, from 1983 SWRCB Hearing, p. 9). From time to time as the Colorado River meandered back and forth across its delta, its entire flow entered the Salton Basin creating a body of water about 117 miles long and 30 miles wide. This ancient body of water was called Lake Cahuilla and appears to have evaporated away for the last time about 500 years ago. (Staff, 12, from 1983 SWRCB Hearing, p. 10).

The modern day Salton Sea was formed by the accidental and uncontrolled diversion of Colorado River flood flows during 1905 to 1907. (Staff, 12, from 1983 SWRCB Hearing, p. iii). The Salton Sea is sustained primarily by agricultural drainage water and, to a lesser extent, by return flows from domestic water use. Minor amounts of rainfall and groundwater also enter the Salton Sea. (Staff, 12, from 1983 SWRCB Hearing, p. 12). The elevation of the Salton Sea has fluctuated from a maximum of 196 feet below sea level in 1907 to as low as 250 feet below sea level in 1920. Agricultural expansion and the resulting increase in drainage water have caused

the sea to rise to its current level of approximately 227 feet below sea level. (IID, 12, Attachment 15).

The historic record of the Salton Sea shows a gradual increase in the concentration of dissolved salts. Since the Salton Sea is in a closed basin having no outlet, salinity is a function of the degree to which inflow balances evaporation. Although salinity levels have fluctuated slightly, the historic trend shows an increase in salinity. In January of 1986, the salinity concentration in the Salton Sea was approximately 39,300 mg/1. (IID, 2, p. 3-8). As explained below, the Environmental Impact Report for the proposed water conservation program recognizes that one consequence of reduced inflow to the Salton Sea will be a more rapid rate of increase in the salinity.

7.2 *Impacts of Water Conservation in IID*

IID prepared an Environmental Impact Report (EIR) for the proposed water conservation program which identified several adverse effects of implementing the program. With respect to the Salton Sea, the EIR recognizes that a reduction in inflow of agricultural return flow will result in a reduced elevation of the Salton Sea and an accelerated increase in salinity. At some point, increasing salinity levels will interfere with the survival of the fishery. (Staff 12, from 1983 SWRCB hearing, p. 16). Implementation of additional water conservation measures will also result in a reduction of existing wetland habitat along the Salton Sea shoreline. The EIR states that the reduction in habitat could cause significant damage to terrestrial wildlife, especially the Yuma Clapper Rail, a federally designated endangered species and California designated rare avian species. (IID, 2, p. 4-23).

Recreational activities at the Salton Sea would also be adversely affected by an accelerated increase in salinity

expected to occur due to water conservation. The 1986 Draft EIR estimated the total recreational activity at the Salton Sea to be 750,000 recreational use days annually. This includes 400,000 days related to fishing, 150,000 days related to hunting, and 200,000 days of other recreational uses. With or without implementation of additional water conservation measures, the EIR assumed that continued deterioration of the Salton Sea due to increasing salinity will result in the loss of all fishing activity and one-half of the other recreational activity, or a total loss of 575,000 recreation days annually. (IID, 2, p. 4-27).

Impacts to recreational use of the area depend to a large extent on when the fishery would be severely impacted. For purposes of the EIR, it was assumed that a salinity level of 45,000 mg/1 is the point at which most fishery activity would be severely reduced. This salinity level would be reached three years sooner with the implementation of water conservation measures proposed in IID's 1985 plan. (IID, 2, p. 4-27).

Additional water conservation in IID will significantly reduce flows in the Alamo River, the New River, and drains flowing directly to the Salton Sea. The reduction in inflow to both rivers will result in an increase in salinity and pollutant concentrations which will impact the aquatic and terrestrial biota. (IID, 2, pp. 4-22 and 4-23).

The most significant beneficial impacts which would result from an expanded water conservation program are the availability of conserved water for other uses, the reduced demand on other sources of water, and the economic stimulus provided to the local economy through increased construction activity. The extent of both such benefits depends upon the scope of the conservation program and the rate of implementation. For purposes of the EIR, it was assumed that a conservation program

would entail construction expenditures of $300 million and annual operation and maintenance expenses of $20 million. (IID, 2, p. 1-4). Other beneficial impacts of the program identified in the EIR include lower farm production costs and reduced penalty payments to landowners experiencing flooding due to the existing high water level of the Salton Sea. Offset against the economic stimulus was a projected $13.5 million loss in regional income due to accelerated loss of recreation and $10.4 million in "social costs" representing the value of lost recreational enjoyment, reduced property values and related property taxes. It is reasonable to assume that both the adverse and beneficial effects of water conservation in IID will vary depending upon the specific water conservation measures involved and the quantity of water conserved.

7.3 *CEQA Considerations*

In April of 1986 the Imperial Irrigation District circulated a draft EIR through the State Clearinghouse (SCH 86012903) for the District's proposed Water Conservation Program and Initial Water Transfer. On June 18, 1986 the State Board commented on the draft EIR, and in October of 1986 IID released the final EIR. On December 2, 1986 IID approved the Water Conservation Program and the Initial Water Transfer, and filed Notices of Determination with the County Clerks of Imperial and Riverside Counties and the State Secretary for Resources. The EIR addresses the environmental impacts of an expanded water conservation program in IID, but the discussion of environmental mitigation measures is limited.

The Notice of Determination for the proposed Water Conservation Program acknowledged that the plan would have significant effects on the environment and reports

that findings of overriding considerations were adopted by IID's Board. (IID, 1b and 1c). The Imperial Irrigation District's findings were based on the premise that specific economic, social, and other considerations made infeasible the project alternatives identified in the final EIR. Entry of a finding of overriding considerations is authorized by Public Resources Code Section 21081 which specifies the circumstances under which a public agency can approve or carry out a project which will significantly impact the environment.

Significant environmental impacts identified in the EIR include the following: (1) lower elevation and higher salinity of the Salton Sea resulting from reduced inflows (IID, 1a, p. 2); (2) increased salinity and decreased flow of the New and Alamo Rivers (IID, 1a, p. 8); (3) increased pollutant concentrations in the New River at the outlet by as much as twenty percent, and in the Alamo River by as much as fifty percent at some locations, assuming present pollutant loads (IID, 1a, p. 11); (4) increased uptake of pollutants into the terrestrial food chain through the New and Alamo Rivers wetlands/riparian habitats (IID, 1a, p. 20); (5) reduction of migratory bird use areas within Imperial and Riverside Counties which are part of the Pacific Flyway (IID, 1a, p. 24); (6) decreased use of the Salton Sea aquatic and riparian habitats by terrestrial biota (IID, 1a, p. 31); (7) accelerated loss of biota and fishery in the Salton Sea, including the desert pupfish (endangered species) (IID, 1a, p. 37); (8) accelerated loss of recreation value of the Salton Sea (IID, 1a, p. 46); and (9) accelerated loss in resort and property values near the Salton Sea (IID, 1a, p. 52).

The EIR discusses mitigation measures for these environmental impacts in general terms but generally does

not identify specific mitigation measures available to rectify adverse impacts to the environment.[4] The lack of detailed discussion of mitigation measures may be partially due to the fact that the District has not yet determined which particular water conservation measures should be pursued or what the schedule for implementation should be.

In view of the very general nature of the water conservation program approved by the District in 1986, the EIR certified in that year should be considered a Program EIR which provides a general assessment of the overall environmental effects of increasing water conservation efforts in IID. Prior to the approval of a specific water conservation program by IID, either a subsequent EIR or a supplement to the existing EIR may be required in accordance with the criteria specified in the State CEQA Guidelines. (CCR, Title 14, Sections 15162 and 15163). Reasons for requiring a subsequent EIR or an EIR supplement include substantial changes in the nature of the proposed project, changes in the circumstances under which it is to be undertaken or the availability of new information of substantial importance to the project. One example of significant new information which was not available in 1986 concerns the proposed feasibility study of evaporation ponds as a means of limiting the increase in Salton Sea salinity levels. (T,I,46:18-47:2). The results from this study and other ongoing studies conducted by IID and other agencies should be considered in determining appropriate mitigation measures for the adverse environmental impacts identified in the 1986 EIR.

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[4]Characteristic of the non-specific mitigation measures specified in the EIR are statements such as "habitat loss and degradation will be mitigated by enhancing other habitats or creating new ones". (IID, 2, p. 5-2)

8.0 LEGAL PRINCIPLES APPLICABLE TO IID WATER CONSERVATION PROPOSALS

8.1 *Constitutional and Statutory Requirements to Maximize Beneficial Use of Water*

Article X, Section 2 of the California Constitution sets forth the basic policy governing all water use in the State of California:

> "It is hereby declared that because of the conditions prevailing in this State *the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented,* and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. . . . This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained." (Emphasis added.)

A similar mandate is set forth in Section 100 of the California Water Code. These basic constitutional and statutory provisions reflect several important principles.

First, the California Constitution and Water Code prohibit the wasteful or unreasonable use, method of use or method of diversion of water. Numerous factors which

should be considered in evaluating instances of alleged waste or unreasonable use are discussed in Decision 1600. (Decision 1600, pp. 24-29).[5] A key concept relevant to the future use of Colorado River water by water users in California is set forth in a 1935 California Supreme Court decision regarding water use in another area of the state:

> "What is a beneficial use, of course, depends upon the facts and circumstances of each case. What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. *What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.*" (*Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist.*, 3 Cal.2d 489, 45 P.2d 972, 1007 (1935), emphasis added.)

A second, and related, principle established by Article X, Section 2 is that the limited availability of water for use in California means that those water resources which are available must be applied to the maximum beneficial use of which they are capable. Merely making some beneficial use of the water is not sufficient. Rather, beneficial use of water is to be maximized and "the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare."

The third principle reflected in Article X, Section 2 and Water Code Section 100 is that the right to the use of water extends only to such water as is reasonably required for the beneficial use to be served. Thus, if there

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[5]See Kramer and Turner "Prevention of Waste and Unreasonable Use of Water: The California Experience." 1 *Agricultural Law Journal* 519, 522 (1980).

are reasonable water conservation measures available to reduce the quantity of water needed to serve existing beneficial uses, then such conservation measures should be utilized. Determination of reasonableness with respect to water use and methods of use depends upon the circumstances of each case in view of statewide considerations, including "the ever increasing need for conservation of water in this state." *Joslin v. Marin Municipal Water District* 67 Cal.2d 132, 429 P.2d 889 (1967). In circumstances where the constitutional standard of reasonable use leads to the conclusion that additional water conservation measures should be employed, a water user cannot maintain a right to divert and use a quantity of water which is needed only if unreasonable practices are followed.

Stated differently, a water user cannot "bank" the availability of a future water supply by failing to implement water conservation measures needed to comply with Article X, Section 2 of the California Constitution. To the contrary, under present California law, in a situation where practical water conservation measures are available, an established water right can be protected most effectively by reducing the quantity of water used through implementing water conservation measures. (See generally Water Code Section 1011).

With respect to encouraging water conservation in IID specifically, in 1984 the Legislature enacted Water Code Section 1012 which provides as follows:

> "Notwithstanding any other provision of law, where any person, public agency, or agency of the United States undertakes any water conservation effort, either separately or jointly with others entitled to delivery of water from the Colorado River under contracts with the United States, which results in

> reduced use of Colorado River water within the Imperial Irrigation District, no forfeiture, diminution, or impairment of the right to use the water conserved shall occur, except as set forth in the agreements between the parties and the United States.[6]

In summary, it must be recognized that a water right is not necessarily protected simply by diverting water and applying it to a beneficial use. Protection of the water right also requires that the method of diversion and use must be reasonable in view of all relevant circumstances. The availability of financial resources for implementing proposed water conservation measures is a factor to be

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[6]A non-codified provision of the bill by which Section 1012 was enacted provides:

> "The Legislature finds and declares that the enactment of Section 1012 of the Water Code is intended to clarify and make specific existing California law in regard to water conservation measures which may be taken within the Imperial Valley. In enacting Section 1012 of the Water Code, it is not the intent of the Legislature to alter the relationship of state and federal law, as each may apply to the distribution and use of Colorado River water." (Stats. 1984, c. 429, § 1.)

The statement of intent was added in recognition of the legal dispute regarding the effect of potential conflicts between specific provisions of state law and the various aspects of federal statutes, judicial decisions, agreements, and international treaties which govern diversion of water from the Colorado River and which are known collectively as the "Law of the River". The State Board's position has been that it will not attempt to resolve issues involving the right to sell or transfer water outside of the priority scheme reflected in the federal contracts for delivery of Colorado River water without first determining that it has jurisdiction in the particular case and then only pursuant to an orderly proceeding in exercise of that jurisdiction. Such a proceeding would include the submission of legal briefs by interested parties.

considered in evaluating the reasonableness of an existing method of diversion and use. If sufficient funding is available to implement reasonable water conservation measures, then the failure to implement such measures could endanger the underlying water right. A water right is protected most effectively under California law by making reasonable and beneficial use of water while implementing all reasonably available water conservation measures.

8.2 *Jurisdiction of State Water Resources Control Board*

The responsibility of the State Water Resources Control Board to pursue the policies established by Article X, Section 2 of the California Constitution is established by several statutory provisions and judicial opinions. The role of the Board with respect to California water resources is summarized in Water Code Section 174 which provides in relevant part:

> "The Legislature hereby finds and declares that in order to provide for the orderly and efficient administration of the water resources of the state it is necessary to establish a control board which shall exercise the adjudicatory and regulatory functions of the state in the field of water resources."

Water Code Section 275 charges the Department of Water Resources and the State Board with the responsibility of preventing the misuse of water in California:

> "The department [of Water Resources] and board [the State Water Resources Control Board] shall take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this State."

The issue of the Board's jurisdiction with respect to water conservation in IID was raised in litigation initiated by IID following entry of Decision 1600. In rejecting IID's argument regarding the alleged lack of Board jurisdiction, the Court of Appeal for the Fourth Appellate District concluded that "the Board's authority includes the power to adjudicate the Article X, Section 2, issue of unreasonable use of water by IID." *Imperial Irrig. Dist. v. BState Water Resources Control Board* 186 Cal.App.3d 1160, 1171; 231 Cal.Rptr. 283, 290 (1986). The Court also concluded that the adjudicatory authority of the Board in the matter of unreasonable use would include the authority to order IID "to submit a plan to conserve water as was done here." (186 Cal.App.3d at 1170, 231 Cal.Rptr. at 289.)

Following the Court of Appeal ruling confirming the Board's jurisdiction in waste and unreasonable use proceedings, the suit was returned to the Superior Court for review of Decision 1600. In its Statement of Decision upholding Decision 1600, the Superior Court emphasized that:

> "While the Court agrees that the primary responsibility for evaluating and implementing potential water conservation measures for IID lies with the District itself, it is the board (along with the Department) which is charged with the responsibility of preventing the misuse of water. Water Code § 275. Furthermore, recent decisions have recognized a 'broad', 'open-ended', 'expansive' authority on the part of the Board to undertake comprehensive planning and allocation of the State's water resources. [Citations omitted.] Indeed, as the Court stated in *United States v. State Water Resources Control Board* (1986) 182 Cal.App.3d 82 at page 129, 'All water

> rights, including appropriative, are subject to the overriding constitutional limitation that water use must be reasonable .... To that end, the Board is empowered to institute necessary judicial, legislative or administrative proceedings to prevent waste or unreasonable use ....' "

The Superior Court remanded the matter to the Board for the purpose of determining new dates of compliance with the order provisions of Decision 1600.

8.3 *Implementation of Water Conservation Measures Pursuant to Agreement to Transfer Conserved Water*

As discussed in Sections 6.1 through 6.2.3, IID and other interested parties have directed considerable attention to the possibility of funding additional water conservation measures in IID as part of an agreement to transfer the right to use water made available through IID water conservation measures. With the enactment of Water Code Section 109 in 1980, the California Legislature went on record in favor of promoting voluntary transfers of water or water rights as a means of meeting the State's growing water needs. Specific authorization for the transfer of water made available through water conservation efforts is provided by subdivision (b) of Water Code Section 1011:

> "Water, or the right to the use of water, the use of which has ceased or been reduced as the result of water conservation efforts as described in subdivision (a), may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights, including, but not limited to, provisions of law governing any change in point of diversion, place of use, and purpose of use due to the transfer."

With respect to water conservation in IID, Water Code Section 1012 provides that no diminution or impairment of IID's right to the use of conserved water shall occur, except as set forth in the agreement between the participating parties and the United States. In summary, the California Water Code not only authorizes the voluntary transfer of water made available through implementation of conservation measures, but it actively encourages such transfers and protects the underlying water right of the agency which conserves the water.

8.4 *Implementation of Water Conservation Measures Pursuant to Physical Solution Doctrine*

The record clearly establishes the existence of alternative needs for water which could be made available through IID water conservation, the feasibility of conserving substantial amounts of water through improvements to the IID system, and the expressed interest of IID and other water users in cooperating to implement such improvements. Although a voluntary agreement between IID and other parties interested in the use of conserved water appears to provide the most feasible way of achieving significant water conservation in the near future, the failure of the affected parties to reach an agreement would not preclude the Board or the courts from developing and ordering implementation of a "physical solution" to the dispute. Under the physical solution doctrine, a junior appropriator or appropriators could finance improvements to IID's water distribution system in exchange for receiving the water made available through such conservation measures.

With respect to resolving a dispute between competing water users in which the parties could not agree on a physical solution, the California Supreme Court has stated:

> "... It is not only within the power but it is also the duty of the trial court to admit evidence relating to possible physical solutions, and if none is satisfactory to it to suggest on its own motion such physical solution. [Citations omitted.] The court possesses the power to enforce such solution regardless of whether the parties agree." (*City of Lodi v. East Bay Municipal Utility District* (1936) 7 Cal.2d 316, 60 P.2d 439, 450).

The Court went on to say in the *Lodi* decision that, if a physical solution is ordered to be implemented, any substantial cost should be borne by the holder of the junior right. (Id., 7 Cal.2d at 341, 60 P.2d at 450). With respect to water transfer proposals between IID and MWD, if the ongoing negotiations prove unsuccessful, the dispute could be resolved pursuant to the physical solution doctrine[7] If the physical solution doctrine were applied, it would be necessary to determine which water conservation measures should be implemented and how the holder of the junior right would pay the reasonable cost of implementing the selected measures. It is reasonable to assume that environmental mitigation measures and other expenses directly attributable to the water conservation program would be included as part of a physical solution and the associated costs. Any programs which are unre-

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[7]For a general discussion of the physical solution doctrine and application of the doctrine to water conservation in the Imperial Irrigation District, see Harrison C. Dunning, "The 'Physical Solution' In Western Water Law," *University of Colorado Law Review*, Vol. 57, No. 3, Spring 1986.

lated to water conservation measures, however, would not normally be included in the calculation of costs of implementing a physical solution.

9.0 CONCLUSION

Since the issuance of Decision 1600, IID has undertaken or expanded a wide variety of studies and programs to increase water conservation. IID has prepared a comprehensive array of planning documents which identify various water conservation measures which could be implemented and a tentative implementation schedule under differing assumed conditions. Limitations resulting from present methods of funding, however, have impeded implementation of additional conservation measures and have even reduced the rate of canal lining in recent years. The tentative schedule for implementation of water conservation measures proposed in the IID planning documents is highly contingent upon the District developing adequate financing. In the absence of additional sources of funding for water conservation, it is very unlikely that IID will implement all or a major portion of the water conservation measures identified in its plans at any time in the near future.

Implementation of the water conservation measures proposed by IID would require a period of several years before the major portion of water conservation is achieved. The evidence firmly establishes that there will be a need for water which could be made available within the period of time required for implementation of identified water conservation measures as specified in IID's recent proposals. In order to comply with the constitutional mandate to maximize beneficial use of water, it is imperative to establish a definite schedule for implement-

ing a comprehensive water conservation program and to begin implementation as soon as possible.

The numerous studies and planning documents already developed by IID provide a solid basis of information from which to finalize a specific water conservation plan and implementation schedule. Implementation of a specific plan on a timely basis, however, will require four further interrelated developments. First, the specific water conservation measures actually to be implemented must be determined. Second, sufficient funding must be arranged for whatever conservation measures are selected. Third, a schedule for implementing the selected water conservation measures must be established. Fourth, the selected water conservation measures must be implemented in accordance with the specific schedule. Implementation of a water conservation plan must be in compliance with the California Environmental Quality Act. In addition to the mitigation measures identified in the 1986 EIR, CEQA requires that if new information of substantial importance becomes available regarding environmental impacts and mitigation measures, such information must be evaluated in a supplemental environmental document or documents and appropriate mitigation measures taken.

In view of the progress made to date, and in view of the fact that the Superior Court review of Decision 1600 was concluded only recently, the Board concludes that IID should be given until January 1, 1989 to submit a written plan and definite implementation schedule for the additional water conservation measures which IID selects. The plan should specify water conservation measures estimated to conserve at least 100,000 acre-feet per annum by January 1, 1994. The conservation of at least 100,000 acre-feet per annum as proposed in the plan shall

be in addition to water conservation due to previous actions or improvements.

In order that the selected water conservation measures be implemented on schedule, the plan should specify the chosen method of financing and should be accompanied by proof of diligent efforts to secure such financing. The Board's direction to submit a specific plan of implementation should not be interpreted as a call for further feasibility studies or development of tentative alternatives for further investigation. Although further studies may be required in the course of developing IID's ultimate water conservation program, sufficient information presently is available for IID to develop and submit by January 1, 1989, a definite plan and implementation schedule for conservation of an additional 100,000 acre-feet of water per annum. If no such plan and schedule are submitted, the Board will determine what additional steps are appropriate at that time.

The need for substantial additional water supplies in California and the prospects for substantial water conservation in IID have been well established. Development of a definite schedule and implementation plan for conserving at least 100,000 acre-feet per annum should be regarded as an initial step in developing and implementing an overall water conservation program which will assist in meeting identified needs. Based on presently available information, the Board finds that conservation of 367,900 acre-feet per annum as proposed in IID Exhibit 25 is a reasonable long-term goal which will assist in meeting future water demands. The Board will retain jurisdiction to review implementation of the initial plan and future water conservation measures.

ORDER

IT IS HEREBY ORDERED that:

1. Imperial Irrigation District shall submit to the Board by January 1, 1989 a specific written plan of implementation containing a definitive schedule for implementing additional water conservation measures. The specified water conservation measures shall be sufficient to conserve at least 100,000 acre-feet per annum by January 1, 1994. The plan shall identify the source or sources of funding for the selected water conservation measures.

2. Imperial Irrigation District shall submit to the Board by January 1, 1989 proof of diligent efforts to secure funding sufficient to implement the water conservation measures described in Paragraph 1 of this Order. Said proof of efforts to secure funding shall consist of a resolution by the Imperial Irrigation District Board of Directors committing the District to fund implementation of the selected water conservation measures using District resources, or an executed agreement with a separate entity willing to finance water conservation measures in Imperial Irrigation District, or evidence of a comparable action which assures adequate funding for the selected water conservation measures. If the Imperial Irrigation District Board of Directors determines that an election is needed to approve the selected method of financing or implementation of the selected water conservation measures, or both, the District shall submit evidence by January 1, 1989 establishing that the District has scheduled such election.

3. Imperial Irrigation District shall submit semi-annual progress reports to the Board showing the status of implementation of the District's water conservation pro-

gram. The progress reports shall be submitted commencing on July 1, 1989 and continuing at six-month intervals until further notice from the Board.

4. Imperial Irrigation District shall submit evidence to the Board by July 1, 1991 showing that 20,000 acre-feet per annum of the 100,000 acre-feet per annum referred to in Paragraph 1 of this Order has been conserved by January 1, 1991.

5. The Board reserves jurisdiction in this matter for the purpose of reviewing the adequacy of the required water conservation implementation plan and District actions, monitoring the progress of the District in carrying out the various elements of the water conservation plan and taking such other action as may be appropriate to ensure that the requirements of Article X, Section 2 of the California Constitution are met.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 7, 1988.

AYE:	W. Don Maughan Eliseo M. Samaniego Danny Walsh
NO:	None
ABSENT:	Darlene E. Ruiz Edwin H. Finster
ABSTAIN:	None

MAUREEN MARCHÉ

Maureen Marché
Administrative Assistant to the Board

[No. D003158. Fourth Dist., Div. One. Nov. 4, 1986.]

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Respondent,
v.
STATE WATER RESOURCES CONTROL BOARD,
Defendant and Appellant;
ENVIRONMENTAL DEFENSE FUND, INC.,
Intervener and Appellant.

SUMMARY

In an action brought by the Imperial Irrigation District (IID) against the State Water Resources Control Board (Board), the trial court declared that an adjudicatory decision by the Board that IID's failure to implement additional water conservation measures was unreasonable and constituted a misuse of water under Cal. Const., art. X, § 2, and Wat. Code, § 100, was not binding on IID. (Superior Court of Imperial County, No. 58706, James A. Malkus, Judge.*)

The Court of Appeal reversed, holding that the Board has adjudicatory power in the matter of unreasonable use of water by the IID. (Opinion by Lewis, J., with Work, Acting P. J., and Butler, J., concurring.)

HEADNOTES

Classified to California Digest of Official Reports, 3d Series

(1a, 1b) Waters § 186 — Water Litigation — Jurisdiction of State Water Resources Control Board. — The State Water Resources Control Board (Board) has adju-

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*Assigned by the Chairperson of the Judicial Council.

dicatory power in the matter of unreasonable use of water. Thus, in an action by an irrigation district against the Board, the trial court erroneously declared that an adjudicatory decision by the Board that the district's failure to implement additional water conservation measures was unreasonable and constituted a misuse of water under Cal. Const., art. X, § 2 and Wat. Code, § 100 was not binding on the district.

[See Cal.Jur.3d, Water, § 43.]

(2) Waters § 186 — Water Litigation — Jurisdiction of State Water Resources Control Board — Limitation on Jurisdiction. — Wat. Code, § 275, providing that the Department of Water Resources and State Water Resources Control Board (Board) take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water, is not a limitation on the Board's adjudicatory power, but, rather, confers on the Board one of its many available tools for use in water resource management. Further, along with Cal. Const., art. X, § 2, declaring the state's official water policy, and Wat. Code, § 1050, providing statutes to be in furtherance of the water policy contained in Cal. Const., art. X, § 2, Wat. Code, § 275 is authority for the proposition that the Board has the separate and additional power to take whatever steps are necessary to prevent unreasonable use or methods of diversion of water.

(3) Waters § 134 — Irrigation Districts and Similar Organizations — Jurisdiction of State Water Resources Control Board Over Irrigation Districts. — Neither the fact that an irrigation district was a local agency authorized by Wat. Code, § 20500 et seq., nor that it was authorized to undertake water conservation programs

under Wat. Code, § 375, mandated the conclusion of the trial court in a declaratory relief action that an adjudicatory decision by the State Water Resources Control Board, that the district's failure to implement additional water conservation measures was unreasonable and constituted a misuse of water, was not binding on the district. Even if the district were found to come within the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.), its compliance activities in the form of planning did not insulate it from concurrent State Water Resources Control Board adjudicatory authority in the matter of unreasonable use of water, even to the extent of ordering it to submit a plan to conserve water.

(4) Waters § 186 — Water Litigation — Jurisdiction of State Water Resources Control Board — Exclusive Remedy. — In an action by an irrigation district against the State Water Resources Control Board (Board) for a declaration that an adjudicatory decision by the Board, that the district's failure to implement additional water conservation measures was unreasonable and constituted a misuse of water, was not binding on the district, there was no exclusive-remedy significance to regulations referring to the Board's ability to request legal action by the Attorney General on matters involving noncompliance with Board orders. (Cal. Admin. Code, tit. 23, §§ 764.13, 4006.)

(5) Waters § 185 — Water Litigation — Trial Court Review of State Water Resources Control Board Decision. — Superior court review of an adjudicatory decision by the State Water Resources Control Board that an irrigation district's failure to implement additional water conservation measures was unreasonable and constituted a misuse of water must be by way of writ, and not by trial de novo, in the superior court. Further, the independent

judgment test should be applied by the trial court. (See Wat. Code, § 1840, subd. (c).)

COUNSEL

John K. Van de Kamp, Attorney General, R. H. Connett, Assistant Attorney General, Roderick Walston and M. Anne Jennings, Deputy Attorneys General, for Defendant and Appellant.

Jennings, Engstrand & Henrikson, Paul D. Engstrand, Urban J. Schreiner, Gregory V. Moser, Horton, Knox, Carter & Foote, Reginald L. Knox, Jr., and John P. Carter for Plaintiff and Respondent.

Thomas J. Graff, John W. Krautkraemer, Jeffrey H. Silberman and Mulvaney & Kahan for Intervener and Appellant.

OPINION

LEWIS, J. — In its action for declaratory relief the Imperial Irrigation District (IID) prevailed against the State Water Resources Control Board (Board) and intervener Environmental Defense Fund, Inc. (EDF), when the trial court declared nonbinding on IID a June 21, 1984, adjudicatory decision by the Board that IID's "failure to implement additional water conservation measures at this time is unreasonable and constitutes a misuse of water under Article X, Section 2 of the California Constitution and Section 100 of the California Water Code." (1a) Contending the Board had adjudicatory power to make such a finding of unreasonable use of water by IID, the Board and EDF appeal the trial court's judgment which was based on the view that the statutory scheme does not authorize the Board to adjudicate the matter of unreasonable use and that the Board's remedy

is prescribed by Water Code section 275,[1] i.e., to refer the matter to the Attorney General for legal proceedings before the superior court. Holding that the Board has adjudicatory power in the matter of unreasonable use of water, we reverse.

I

This matter had its origins in 1980 when John Elmore, a farmer with acreage adjacent to the Salton Sea, requested the Department of Water Resources (DWR) to investigate alleged misuse of water by IID in the form of losses due to canal spills and excess tailwater running from the fields of IID's customers. (See *Elmore v. Imperial Irrigation Dist.* (1984) 159 Cal.App.3d 185, 189 [205 Cal.Rptr. 433].) DWR concluded IID wastes and misuses substantial quantities of water. Elmore also requested a hearing from the Board (leading to the determination here in question), brought suit for damages and injunctive relief and petitioned for a writ of mandamus seeking adjudication of allegations IID violated its duty by wasting and misusing water and by flooding Elmore's land and destroying existing drainage on his land.[2] After

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[1]All statutory references are to the Water Code unless otherwise specified.

[2]After a demurrer to the writ petition was sustained without leave to amend. Elmore appealed to this court which reversed. One of IID's arguments on the appeal was that the Board had exclusive jurisdiction of the issues and Elmore thus had not exhausted his administrative remedies. This court held the superior court had concurrent original jurisdiction with the Board, thus defeating IID's argument which was inconsistent with the view it takes in this case. (See *Elmore v. Imperial Irrigation Dist., supra*, 159 Cal.App.3d 185, 192-193.) Elmore and IID settled that case before the trial court heard this case.

completing its investigation and report, DWR referred the matter to the Board which conducted hearings concerning alleged waste and unreasonable use of water by IID. The hearings on six dates in September and December 1983 culminated in the Board's 71-page Decision 1600 on June 21, 1984. After making the finding IID's failure to implement additional water conservation measures is unreasonable and a misuse of water under the California Constitution, article X, section 2, the Board ordered IID to undertake various conservation measures.[3] IID's request for reconsideration of Decision 1600 on the ground all water IID diverts from the Colorado River[4] is put to beneficial use and no alternate beneficial use for the water presently exists was denied by the Board on September 20, 1984.

This declaratory relief action followed with the trial court concluding:

"1. The provisions of article X, section 2 of the California Constitution are applicable to the [IID].

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[3]IID is a public agency formed under the Irrigation District Law. (§ 20500 et seq.) The parties stipulate IID is authorized to adopt a water conservation program for the purpose of conserving the water supplies available to it. (§ 375.)

[4]Although the legal relationships involving IID and its Colorado River water source are complex, the Board informs us, without dispute, that IID has pre-1914 appropriative rights dating from 1901, antedating the permit system established in Part 2 (commencing with § 1200 of Div. 2). IID was adjudicated to have state-perfected appropriative rights to the lesser of 2.6 million acre-feet or the quantity reasonably needed to supply consumptive and related uses on 424,125 acres. (*Arizona v. California* (1979) 439 U.S. 419, 429 (58 L.Ed.2d 627, 633, 99 S.Ct. 995]; *Bryant v. Yellen* (1980) 447 U.S. 352, 364-365, 371-372 [65 L.Ed.2d 184, 194-195, 199-200, 100 S.Ct. 2232].)

"2. The [Board] had authority to conduct an administrative hearing on the reasonableness of the [IID's] water management practices and to make an administrative determination thereon.

"3. The factual statements, conclusions and legal opinions expressed in Decision 1600, including the conclusion therein that the operational practices of [IID] violate article X, section 2 of the California Constitution, shall not have any binding effect in any other action or proceeding.

"4. The orders contained in Decision 1600 are without binding effect on [IID]. The [Board] may initiate an action authorized by law in accordance with the provisions of section 275 challenging the operational practices of IID which may be subject to section 275. In any such action [IID] shall be entitled to a full trial de novo."

II

Article X, section 2 of the Constitution and section 100 declare the general welfare requires the state's water resources be put to beneficial use to the fullest extent of which they are capable and the waste or unreasonable use of water be prevented. The constitutional provision declares: "This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained."[5]

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[5]Article X, section 2 of the Constitution reads: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in

Section 5 of article X of the Constitution, relating to appropriated water use such as IID's, declares all such use to be a public use "subject to the regulation and control of the State, in the manner to be prescribed by law."[6]

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the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained."

Section 100 provides: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or watercourse in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water."

[6]Article X, section 5 of the Constitution reads: "The use of all water now appropriated, or that may hereafter be appropriated, for sale, rental, or distribution, is hereby declared to be a public use, and

With respect to adjudicatory power of the Board, the Legislature has declared the Board "shall exercise the adjudicatory and regulatory functions of the state in the field of water resources." (§ 174.) To this end the Legislature expressly has provided for adjudicatory functions of the Board in certain areas such as whether water is appropriated (§ 1051) and whether particular action or inaction by regional water quality control boards under the Portor-Cologne Water Quality Control Act (§ 13000 et seq.) is proper (see, e.g., §§ 13320, 13324).[7] In other areas having to do with water resources, however, the Legislature has not specifically granted adjudicatory authority to the Board with reference to particular areas of water resource concern.

The Supreme Court, considering an area of Board adjudicatory endeavor expressly provided for by statute, that of waste water reclamation (see, e.g., § 13324) in a background of appropriative rights under permit from the Board, has said "[t]he statutes vest the [Board] with *full authority to 'exercise the adjudicatory* and regulatory *functions* of the state *in the field of water resources.'* " *(Environmental Defense Fund, Inc. v. East Bay Mun. Utility Dist.* (1977) 20 Cal.3d 327,[8] 342 [142 Cal.Rptr. 904, 572 P.2d 1128], quoting § 174, italics added.) More fully, *EDF I* states: "The Legislature, consistent with its authority under article XIV, section 3 [now art. X, § 2], has established a thorough statutory system insuring reasonable water allocation and safeguarding water purity, com-

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subject to the regulation and control of the State, in the manner to be prescribed by law."

[7]Such decisions are subject to judicial review by way of mandate. (See, e.g., §§ 13325, 13330; *Bank of America v. State Water Resources Control Bd.* (1974) 42 Cal.App.3d 198 [116 Cal.Rptr. 770].)

[8]Here referred to as *EDF I.*

mensurate in scope with the constitutional provision. [Citation.] The statutes vest the [Board] with full authority to 'exercise the adjudicatory and regulatory functions of the state in the field of water resources.' [Citations.] It has been granted broad authority to control and condition water use, insuring utilization consistent with public interest. [Citation.] This authority includes protection of the environment. [Citation.] The [Board's] powers extend to regulation of water quality and prevention of waste. [Citation.] It has adopted administrative regulations to prevent waste and unreasonable use. [Citation.]" (*EDF I, supra,* 20 Cal.3d at pp. 341-342.)

EDF I makes this statement in the context of its holding that the Board had exclusive adjudicatory jurisdiction in the matter of proceedings to compel water agencies to reclaim waste water. (*EDF I, supra,* 20 Cal.3d 327, 341 et seq.) In reaching its conclusion, *EDF I* describes the administrative system established by the Legislature to guarantee reasonable water use and purity as "comprehensive" (*EDF I, supra,* 20 Cal.3d at pp. 343-344) and observes: "The scope and technical complexity of issues concerning water resource management are unequalled by virtually any other type of activity presented to the courts. What constitutes reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes. As this court noted in *Joslin v. Marin Mun. Water Dist.* (1967) 67 Cal.2d 132, 140 . . ., 'what is a reasonable use of water depends on the circumstances of each case, such an inquiry cannot be resolved *in vacuo* from statewide considerations of transcendent importance.'

". . . . . ."

"When as in the instant case the statutory pattern regulating a subject matter integrates the administrative agency into the regulatory scheme and the subject of the litigation demands a high level of expertise within the agency's special competence, we are satisfied that the litigation in the first instance must be addressed to the agency. [Citation.]" (*EDF I, supra,* 20 Cal.3d at p. 344.)

In another area of water resources concern, that of competing uses by all the holders of riparian rights in a stream system,[9] the court further clarified the adjudicatory authority of the Board vis-a-vis the courts in enforcing article X, section 2, by holding "prior court adjudications in original proceedings between some users would not be res judicata in the later administrative proceeding and that the latter proceeding would result in a final and comprehensive determination of user rights 'in light of what constitutes a reasonable beneficial use under article X, section 2.' (*In re Waters of Long Valley Creek Stream System* (1979) 25 Cal.3d 339, 359-360 . . . .)" (*Environmental Defense Fund, Inc. v. East Bay Mun. Utility Dist.* (1980) 26 Cal.3d 183,[10] 199.) It has since been pointed out that although denying res judicata effect to prior private litigation, *Waters of Long Valley* "expressly recognized that superior courts have adjudicated claims between riparian owners [citation], and nothing in the opinion suggests that traditional court enforcement is to be abandoned." (*EDF II, supra,* 26 Cal.3d 183, 199-200.)

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[9]For a summary of the California water rights system which involves both the doctrine of appropriation and riparian rights, see *National Audubon Society* v. *Superior Court* (1983) 33 Cal.3d 419, 441-443 [189 Cal.Rptr. 346, 658 P.2d 709]. (See also *People v. Shirokow* (1980) 26 Cal.3d 301. 306-309 [162 Cal.Rptr. 30, 605 P.2d 859].)

[10]Here referred to as *EDF II.*

EDF II also makes the point that in *Waters of Long Valley,* "[t]his court emphasized that private judicial litigation involves piecemeal adjudication determining only the relative rights of the parties before the court, whereas *in administrative proceedings comprehensive adjudication considers the interests of other concerned persons who may not be parties to the court action.* [Citation.]" (*EDF II supra,* at p. 199, italics added.)

In re Waters of Long Valley Creek Stream System (1979) 25 Cal.3d 339, 348-349, 351-353 [158 Cal.Rptr. 350, 599 P.2d 656], relies on the statutory adjudication procedure set forth in section 2500 et seq., as well as article X, section 2, in concluding the Board is authorized in such statutory adjudication proceedings to determine the nature of future riparian rights.

EDF II, supra, 26 Cal.3d 183, dealt with a matter not involving express statutory adjudicatory authority of the Board, the question of whether a water diversion at one particular location rather than another constitutes an unreasonable method of diversion under article X, section 2. The background in *EDF II,* of course, was the same as in *EDF I,* appropriative rights under permit from the Board. *EDF II* holds both the courts and the Board possess concurrent jurisdiction of the reasonable diversion question. In doing so, *EDF II* relies on much of what was said in *EDF I* as to the Boards' adjudicatory authority, stating in part: "[T]he Legislature completed the comprehensive scheme for administrating appropriative rights by empowering the board to see to it that the rights, once granted, would not be misused to the detriment of the people of the state. Both permits and licenses are made subject to partial or total revocation if the water is not placed to beneficial use in accordance with their terms and conditions and in accordance with division 2 of

the Water Code. [Citation.] Division 2 contains the policy mandates governing actions by the board in approving and administering appropriative rights. Hearing requirements and *judicial review procedures are established to assure that board action under these sections properly balances the rights of the appropriator with the needs of the public.* [Citation.]

"In summary and in the words of *Modesto Properties Co. v. State Water Rights Bd.* (1960) 169 Cal.App.2d 856, 860 . . ., the Legislature devised 'a plan which was commensurate in scope with the constitutional amendment [art. X, § 2],' and delegated to the board by the Water Commission Act the authority to protect the public interest not only in the issuance of appropriative permits and licenses but also in their administration. As pointed out in our earlier decision in this case (20 Cal.3d at p. 342), the board 'has been granted broad authority to control and condition water use, insuring utilization consistent with public interest. [Citation.] This authority includes protection of the environment. [Citation.] The [Board's] powers extend to regulation of water quality and prevention of waste. [Citation.] It has adopted administrative regulations to prevent waste and unreasonable use." (*EDF II, supra,* 26 Cal.3d at p. 198.)

EDF II squarely states "[t]he board's duties and responsibilities over appropriative rights include insuring that they meet the mandate of article X, section 2. (Wat. Code, § 1050.)[11]" (*EDF II, supra,* 26 Cal.3d at p. 195.)

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[11]Section 1050 reads: "This division is hereby declared to be in furtherance of the policy contained in Section 2 of Article X of the California Constitution and in all respects for the welfare and benefit of the people of the state, for the improvement of their prosperity and their living conditions, and the board and the department shall be

A more recent Supreme Court decision from which we take some guidance is *National Audubon Society* v. *Superior Court, supra,* 33 Cal.3d 419,[12] 443, which, referring to article X, section 2, instructs: "*All* uses of water . . . must now conform to the standard of reasonable use." (Italics added.)

National Audubon holds that under section 2501,[13] contained in the statutory adjudication procedure set forth in Chapter 3 (commencing with § 2500) of Part 3 of Division 2, the Board is authorized to determine the allocation of water in a stream system, a determination which may include reconsideration of appropriative rights previously granted in that system (33 Cal.3d at p. 449), but that, based on the statutes providing for a reference to the Board (§ 2000 et seq.[14]), the superior court also has concurrent original jurisdiction. (33 Cal.3d at p. 449.) *National Audubon* states: "In recent decisions, however, we have discerned a legislative intent to grant the Water Board a *'broad,' 'open-ended,' 'expansive'* authority to undertake *comprehensive* planning and allocation of water resources. (*In re Waters of Long Valley Creek Stream*

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regarded as performing a governmental function in carrying out the provisions of this division."

[12]*National Audubon* did not involve a charge of unreasonable use under article X, section 2, but rather a claim that use of water is harmful to interests protected by the public trust. (33 Cal.3d at pp. 448, 449.)

[13]Section 2501 reads: "The board may determine, in the proceedings provided for in this chapter, all rights to water of a stream system whether based upon appropriation, riparian right, or other basis of right."

[14]Section 2000 reads: "In any suit brought in any court of competent jurisdiction in this State for determination of rights to water, the court may order a reference to the board, as referee, of any or all issues involved in the suit."

System (1979) 25 Cal.3d 339, 348-349, 350, fn. 5 . . .; *People v. Shirokow, supra,* 26 Cal.3d 301, 309.) Both *cases emphasized the board's power to adjudicate all competing claims,* even riparian claims [*Waters of Long Valley*] and prescriptive claims (*Shirokow*) *which do not fall within the appropriative licensing system.* Having construed section 2501 to give the board broad substantive powers — powers adequate to carry out the legislative mandate of comprehensive protection of water resources — it would be inconsistent to read that statute so narrowly that the board lacked jurisdiction to employ those powers." (33 Cal.3d at p. 449, italics added.)

(2) In the light of these constitutional, statutory and Supreme Court authorities which apparently establish all-encompassing adjudicatory authority in the Board on matters of water resource management, how could the trial court have found an absence of such authority in the matter of unreasonable water use under article X, section 2? The answer IID proposes, basically, is that section 275 operates as a limitation on the Board's adjudicatory authority. Section 275 reads: "The department and *board shall take all appropriate proceedings or actions before* executive, legislative, or *judicial agencies to prevent waste, unreasonable use,* unreasonable method of use, or unreasonable method of diversion *of water in this state.*" (Italics added.)

No case has construed section 275 as a limitation on the Board's adjudicatory power. In fact, *EDF I,* which holds the Board had *exclusive* adjudicatory jurisdiction over the matter of waste water reclamation in the context of appropriative rights, cites section 275 in support of its conclusion the Board's "powers extend to regulation of water quality and prevention of waste." (*EDF I, supra,* 20 Cal.3d 327, 342.) This cannot reasonably be viewed as a

construction of the statute in a limiting manner. Rather, it shows the Supreme Court's view of the statute as conferring on the Board one of its many available tools for use in water resource management.

A case decided since the trial court's hearing in this matter correctly cites section 275 when viewed together with article X, section 2, and section 1050, as authority for the proposition the Board has "the *separate and additional power* to take whatever steps are necessary to prevent unreasonable use or methods of diversion." *(United States v. State Water Resources Control Bd.* (1986) 182 Cal.App.3d 82, 142 [227 Cal.Rptr. 161].) This view, too, demonstrates that section 275 is not to be construed as a limitation on the Board's adjudicatory authority, but rather as a statute granting separate, additional power to the Board.

This view of section 275, which we adopt, eliminates IID's basic argument in support of the judgment.

IID's other arguments carry no persuasive weight when considered in the context of the authorities we have set forth. (3) Neither the fact that IID is a local agency authorized by statute (§ 20500 et seq.) nor that it is authorized to undertake water conservation programs (§ 375) leads to a different conclusion under the authorities. Whether IID is an urban water supplier providing water for municipal purposes (§ 10617) and thus is required to prepare and adopt an urban water management plan (§ 10620) under the Urban Water Management Planning Act (§ 10610 et seq.) is not shown by the record. Even if IID were found to come within the Urban Water Management Planning Act, we are of the view its compliance activities in the form of planning would not insulate it from concurrent Board adjudicatory authority in the matter of unreasonable use even to the extent of ordering

it to submit a plan to conserve water as was done here. (See §§ 10650, 10651, 10653.) (4) Nor is it of any aid in the resolution of the adjudicatory authority issue to discuss alleged or actual inconsistencies in the positions the parties have taken, or to place any exclusive remedy significance upon regulations referring to the Board's ability to request legal action by the Attorney General on matters involving noncompliance with Board orders. (See Cal. Admin. Code, tit. 23, §§ 764.13 and 4006.) The adjudicatory function performed by the Board in this case is far different in nature and effect from the adoption of a regulation declaring unreasonable the diversion of water from a particular river during a specified season which was involved in *People* ex rel. *State Water Resources Control Bd. v. Forni* (1976) 54 Cal.App.3d 743 [126 Cal.Rptr. 851]. Thus, *Forni*'s characterization of the regulation as no more than a policy statement subject to adjudication of reasonableness by the judiciary (54 Cal.App.3d at p. 752[15]) has no bearing on this case. *Forni* is of no aid to IID. Moreover, we cannot accept IID's position that *Elmore v. Imperial Irrigation Dist., supra,* 159 Cal.App.3d 185 "fully supports the position of IID." Reversing a judgment after IID's demurrer to Elmore's petition for writ of mandate was sustained without leave to amend, this court clearly noted the Board's concurrent jurisdiction with the courts in the matter of unreasonable water use alleged (*id.* at p. 192), stated in terms of the

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[15] "Properly construed, [the regulation] amounts to no more than a policy statement which leaves the ultimate adjudication of reasonableness to the judiciary. Indeed, the initiation of the present action furnishes the best proof that appellant did not consider the regulation and the policy declaration therein binding as to respondent riparian owners, and submitted the issue for judicial determination." (*People* ex rel. *State Water Resources Control Bd. v. Forni, supra,* 54 Cal.App.3d 743 752.)

sufficiency of Elmore's writ petition that "IID has a clear, mandatory duty to avoid wasting water, prevent flooding and provide drainage [quoting article X, section 2, and citing § 100]" (*id.* at p. 193[16]), and directed the court to consider the very decision of the Board here in question and make use of the Board's expertise in determining the petition. (*Id.* at p. 199.) Finally, we have adequately answered IID's other arguments under the heading the law does not support implied powers for the Board.

(1b) Accordingly, we hold in this case involving IID's use of water under appropriative rights that the Board's authority includes the power to adjudicate the article X, section 2, issue of unreasonable use of water by IID. (5) A corollary of this conclusion is that review of the Board's decision must be by way of writ, not trial de novo, in the superior court.[17]

Judgment reversed.

Work, Acting P. J., and Butler, J., concurred.

A petition for a rehearing was denied December 2, 1986, and respondent's petition for review by the Supreme Court was denied January 21, 1987.

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[16]See also *Salton Bay Marina, Inc. v. Imperial Irrigation Dist.* (1985) 172 Cal.App.3d 914, 939-940 [218 Cal.Rptr. 839].

[17]The Board concedes that in this case, the independent judgment test should be applied by the trial court. (See § 1840, subd. (c).)

No. 58706

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,

vs.

STATE WATER RESOURCES CONTROL BOARD,
Defendant and Respondent.

JOHN K. VAN DE KAMP,
Attorney General of the
State of California

R. H. CONNETT
Assistant Attorney General

RODERICK WALSTON
MARY HACKENBRACHT
M. ANNE JENNINGS
Deputy Attorneys General
6000 State Building
San Francisco, California 94102
Telephone: (415) 557-0818

Attorneys for Defendant and Respondent

NOTICE OF APPEAL

Defendant and Respondent State Water Resources Control Board hereby appeals the judgment entered in the above-captioned case.

DATED: May 15, 1985

JOHN K. VAN DE KAMP,
Attorney General of the
State of California
R. H. CONNETT
Assistant Attorney General
RODERICK WALSTON
MARY HACKENBRACHT
MARY ANNE JENNINGS
Deputy Attorneys General
Attorneys for Defendant and Respondent State Water Resources Control Board

FILED D. Dumwalt, Clerk
MAR 29 1985
By S. Rundle

No. 58706

IN THE SUPERIOR COURT
OF THE
STATE OF CALIFORNIA
IN AND FOR
THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,

vs.

STATE WATER RESOURCES CONTROL BOARD,
a public agency,
Defendant and Respondent.

JOHN ELMORE, et al.,
Intervenors.

ENVIRONMENTAL DEFENSE FUND, INC.,
Intervenors.

JUDGMENT AND ORDER

[CCP §§ 632, 1060]

The above-captioned cause came on regularly for hearing on March 25, 1985 before the above-entitled court, the Honorable James A. Malkus, presiding, sitting by designation of the Judicial Council. Pursuant to stipulation of the parties, the hearing was held in Department 12 of the Superior Court for the County of San Diego. Plaintiff and petitioner, Imperial Irrigation District, appeared by its attorneys Paul D. Engstrand and Gregory V. Moser of Jennings, Engstrand & Henrikson, J. Penn Carter and

Reginald L. Knox, Jr. of Horton, Knox, Carter and Foote. Defendant and respondent, State Water Resources Control Board, appeared by its attorney M. Anne Jennings, Deputy Attorney General of the State of California. Proposed intervenor, Environmental Defense Fund, appeared by its attorney Jeffrey H. Silberman of Freshman, Mulvaney, Marantz, Comsky, Kahan & Deutsch. There was no appearance by intervenors John Elmore and Elmore C-O pursuant to their compromise and settlement agreement with the Imperial Irrigation District. The motion of Environmental Defense Fund, Inc. for leave to intervene was granted by this court prior to the hearing of this cause.

The court, having examined the documentary evidence, the written memoranda, heard the arguments of counsel, and the cause having been submitted for decision based upon the stipulation and order issued herein on January 31, 1985, the pleadings and oral argument on March 25, 1985,

IT IS HEREBY FOUND AND ADJUDGED that:

1. The Imperial Irrigation District ("IID") is a public agency formed under the laws of the State of California, in particular the Irrigation District Law (Water Code § 20500 et seq.) and located within the County of Imperial, California. (All sections hereafter referenced are from the Water Code unless otherwise noted.) The elected Board of Directors of the District is authorized to commence, maintain, defend, compromise and assume the costs of any action or proceeding affecting the District's use of water or water rights or other interests. (§§ 22650, 22651, 22654.)

2. IID is authorized to adopt a water conservation program for the purpose of conserving the water supplies available to it. (§ 375.)

3. The State Water Resources Control Board ("SWRCB") is a statewide board created to carry out certain functions of the State in the field of water resources as prescribed by statute.

4. The Department of Water Resources conducted an investigation and prepared a report in response to a request by a private citizen for an investigation of alleged waste and unreasonable use of water by IID. Following completion of the investigation and report, the Department referred the matter to the SWRCB.

5. A hearing was scheduled by the SWRCB and held before the SWRCB on September 27, 28, 29, 1983 and December 12, 13, and 14, 1983 in El Centro, California, concerning alleged waste and unreasonable use of water by IID.

6. Decision 1600 (Exhibit A to the Complaint and Petition) was issued by the SWRCB on June 21, 1984.

7. After reviewing the operational practices of IID, the Board found that "... failure to implement additional water conservation measures at this time is unreasonable and constitutes a misuse of water under article X, section 2 of the California Constitution ...." (D-1600, p. 66.) The SWRCB ordered IID to undertake various conservation measures. (D-1600, pp. 67-70.)

8. On July 23, 1984, IID requested reconsideration of Decision 1600 on the grounds that all water IID diverts from the Colorado River is put to beneficial use and no alternate beneficial use for the water presently exists.

9. On September 20, 1984, the SWRCB issued an Order denying the request of IID for reconsideration (Exhibit B to the Complaint and Petition) for the reasons specified therein.

10. On October 22, 1984 IID filed the within action, seeking, *inter alia,* a "judgment declaring that Decision 1600 and the orders therein have no legal efficacy and are not binding on IID."

11. On January 31, 1985, IID and the SWRCB stipulated, pursuant to Sections 283 and 598 of the Code of Civil Procedure, to certain facts and to a judicial determination of specific issues of law without introduction of the record made before the SWRCB which resulted in Decision 1600 or any other evidence, except matters as to which the court might take judicial notice. The stipluation further provided and ordered that the demurrer of the SWRCB to the declaratory relief cause of action herein be placed off calendar without prejudice to any party.

Based on the above-stated findings of fact, the Court makes the following conclusions of law:

1. The provisions of article X, section 2 of the California Constitution are applicable to the Imperial Irrigation District.

2. The State Water Resources Control Board had authority to conduct an administrative hearing on the reasonableness of the Imperial Irrigation District's water management practices and to make an administrative determination thereon.

3. The factual statements, conclusions and legal opinions expressed in Decision 1600, including the conclusion therein that the operational practices of the District violate article X, section 2 of the California Constitution,

shall not have any binding effect in any other action or proceeding.

4. The orders contained in Decision 1600 are without binding effect on the Imperial Irrigation District. The State Water Resources Control Board may initiate an action authorized by law in accordance with the provisions of section 275 challenging the operational practices of IID which may be subject to section 275. In any such action Imperial Irrigation District shall be entitled to a full trial de novo.

Therefore, it is ADJUDGED, DECLARED and DECREED that Decision 1600 by the State Water Resources Control Board is not binding upon Imperial Irrigation District. The petition for a writ of mandamus, in the alternative, is dismissed without prejudice.

Dated: March 29, 1985

JAMES A. MALKUS

James A. Malkus,
Judge of the Superior Court

APPROVED AS TO FORM:

Dated: March 28, 1985

JOHN K. VAN DE KAMP,
Attorney General of the
State of California

By: _____

Attorneys for Defendant and
Respondent, State Water
Resources Control Board

Dated: March 29, 1985

FRESHMAN, MULVANEY,
MARANTZ, COMSKY,
KAHAN & DEUTSCH

By: /s/ JEFFREY H. SILBERMAN

Jeffrey H. Silberman, Esq.
Attorneys for Intervenor,
Environmental Defense Fund

ORDER: WR 84-12
SOURCE: Colorado River
COUNTY: Imperial

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of

ALLEGED WASTE AND UNREASONABLE USE OF WATER BY IMPERIAL IRRIGATION DISTRICT

ORDER AFFIRMING DECISION 1600 AND DENYING PETITIONS FOR RECONSIDERATION

BY THE BOARD:

The Board having issued Decision 1600 on June 21, 1984; Decision 1600 having directed Imperial Irrigation District to take certain specified actions to increase water conservation; petitions for reconsideration of that decision having been filed by Imperial Irrigation District and Metropolitan Water District of Southern California; and the petitions having been duly considered; the Board finds as follows:

1.0 GROUNDS FOR RECONSIDERATION

The hearing notice dated August 23, 1983 informed the parties that the Board would conduct the proceedings in this matter as closely as practicable to the procedures applicable to appropriate water right proceedings as set forth in the California Administrative Code, Title 23, Article 14, Sections 731 through 735, and Article 14.5, Sections 737.1 through 737.5. Section 737.1 provides that

reconsideration of a Board decision or order may be requested for any of the following causes:

a. A procedural irregularity which has prevented the petitioner from receiving a fair hearing;

b. The decision is not supported by substantial evidence;

c. There is relevant evidence available which, in the exercise of reasonable diligence, could not be produced at the hearing; or

d. An error in law.

2.0 SUMMARY OF PETITIONS AND RELATED SUBMITTALS

2.1 *Imperial Irrigation District*

The Imperial Irrigation District (District or IID) requests that the Board reconsider Decision 1600 based on the contention that the evidence shows the District is beneficially using all water which it diverts from the Colorado River. The District suggests that the Board should find no misuse at the present time and dismiss the proceeding. The arguments presented in support of the District's position are discussed in Section 3 below.

2.2 *Metropolitan Water District of Southern California*

The Metropolitan Water District of Southern California (MWD) requests that the Board delete the finding on page 66 of Decision 1600 regarding the current misuse of water by the District and substitute in its place a statement that additional water conservation measures are necessary to prevent a misuse of water. MWD also requests that the order be phrased as an "interim interlocutory order" since additional data will be necessary to

evaluate District operations more fully. Finally, MWD requests that the phrase "Water Rights Decision" be deleted from the cover of the Decision since the proceeding does not involve an application to appropriate water.

2.3 *United States Bureau of Reclamation*

The United States Bureau of Reclamation (Bureau) submitted a letter dated July 18, 1984 stating that the Board would be justified in reconsidering the decision since several points did not appear to be given adequate consideration. The Bureau stresses the contention that "surpluses" have existed in the Colorado River system for the past several years. The Bureau also argues that a comprehensive water conservation plan cannot be completed by the date specified in the Board's order.

2.4 *John and Stephen Elmore*

John and Stephen Elmore submitted a memorandum of points and authorities which responds to the points raised in the petitions for reconsideration and which urges that reconsideration be denied.

3.0 ISSUES RAISED IN IID PETITION

The Imperial Irrigation District requests reconsideration because it contends that the evidence shows the District is beneficially using all water which it diverts from the Colorado River. The District does not challenge the Board's findings on specific factual issues (IID Petition for Reconsideration, p. 6), but contends that the facts do not support a finding of misuse.

The District's position that there is no misuse of water is based upon the following supporting contentions:

> a. The District is making beneficial use of all water which it diverts;
>
> b. There is no other present competing use for water used by IID; and
>
> c. If not diverted by IID, the water would be "wasted" to the Gulf of California. (IID Petition for Reconsideration, pp. 3-5.)

In addition to presenting the District's view of the law and facts regarding the above contentions, the District's petition discusses several subjects referred to in Decision 1600 and argues at length that the existence of the particular fact or situation "does not constitute a misuse of water". (IID Petition for Reconsideration, pp. 6-35.)

Decision 1600 does not conclude that the existence of any particular fact *in isolation* requires a finding of misuse. Rather, the issue is whether all of the relevant facts together results in a misuse of water. Therefore, the discussion of each of the subjects addressed in the District's petition will focus upon the relevance of that subject to the issue of misuse.

3.1 *Beneficial Use of Water by IID*

The first point stressed in the District's petition is that the District makes benefical use of all water diverted for consumptive use and operational losses; power production; and fish, wildlife and recreational uses. The District argues that Decision 1600 should be reconsidered because the "evidence shows that IID is beneficially using — not misusing — all water diverted." (IID Petition for Reconsideration, p. 1).

At the outset, it is important to recognize that the existence of a beneficial use of water does not foreclose a finding of misuse under the California Constitution. To the contrary, Article X, Section 2 requires that the use of water be both beneficial *and* reasonable. The distinction between the dual requirements of beneficial use and reasonable use was addressed by the California Supreme Court in *Joslin v. Marin Municipal Water District*, 67 Cal.2d 132, 60 Cal.Rptr. 377, 429 P.2d 899 (1967) as follows:

> "[P]laintiffs have not shown how their claimed use of the stream in the instant case, when measured by the constitutional mandate, is a reasonable one. In essence their position is that such use is a beneficial one emcompassed within their riparian rights and that all beneficial uses are reasonable uses. Such a position ignores rather than observes the constitutional mandate. Article XIV, section 3, [now Article X, section 2] does not equate 'beneficial use' with 'reasonable use.' Indeed the amendment in plain terms emphasizes that water must be conserved in California 'with a view to the reasonable *and* beneficial use thereof in the interest of the people,' that the right to use water 'shall be *limited* to such water as shall be *reasonably* required for the beneficial use to be served,' and that riparian rights 'attach to, but to *no more than* so much of the flow' as may be required 'in view of such reasonable *and* beneficial uses.' (Emphasis added.) (Cal.Const., art.XIV, § 3; see fn. 5, ante.) Thus the mere fact that a use may be beneficial to a riparian's lands is not sufficient if the use is not also reasonable within the meaning of section 3 of article XIV and, as indicated, plaintiffs' use must be deemed unreasonable." (*Id.*, 67 Cal.2d at 142, 143, emphasis in original).

In the present situation, there is no dispute that some beneficial use is made of the water diverted by IID. The critical issue is whether the use, method of use, and method of diversion are reasonable in light of all relevant conditions. Examining the beneficial use or uses made of the water diverted by the district is relevant to determining the reasonableness of District practice, but it is not dispositive of the issue. With that in mind, we proceed to discussion of the contentions raised in the District's petition regarding beneficial use of water.

3.1.1 *Irrigation and Operational Losses*

As mentioned above, the fact that IID makes some beneficial use of all water diverted for either irrigation or power production is not at issue. The Board does take issue, however, with the District's characterization of canal spills, tailwater and excess leachwater as a "beneficial use" of water. (IID Petition for Reconsideration, p. 9.) Testimony presented by the District and other parties at the hearing focused on how these losses of water could be reduced. The fact that a portion of the losses may be difficult to eliminate does not make the losses "beneficial". Attempting to portray such losses as "beneficial" — and therefore as desirable — serves only to divert attention from the promotion of more efficient use of water.

The District also argues that "the amount of water used by IID consumptively and operationally is probably sanctioned by" the duty of water provisions of Section 657(a)(1) of Title 23 of the California Administrative Code. (IID Petition for Reconsideration, p. 16.) The water duties specified in the regulation, however, provide only rough guidelines ranging from 1 cubic foot per second (cfs) for each 50 acres to 1 cfs for each 150 acres,

depending upon the circumstances. The existence of such guidelines does not foreclose inquiry into the reasonableness of the method of use and the method of diversion of the water which is applied. In the case of IID, where large quantities of imported water end up in the Salton Sea, it is reasonable to expect better control of tailwater discharges and canal spills than was shown to exist by the evidence presented at the hearing.

3.1.2 *Power Production*

The District's petition for reconsideration discusses at length the value which it receives and has received from hydroelectric power production. Three observations with respect to the petition's discussion of hydroelectric power production are in order. First, Decision 1600 expressly acknowledges the use of water for hydroelectric generation and the economic benefit which IID receives from it. (Decision 1600, pp. 7 and 8.) Second, Mr. Welch's affidavit dated July 19, 1984, which is referred to repeatedly in the petition for reconsideration is not part of the hearing record, and in the exercise of reasonable diligence, much of the information presented in that affidavit could have been produced at the hearing. To the extent that the affidavit refers to more recent information, the Board does not believe the information is of sufficient significance to justify reopening the hearing record. Therefore, the information in that affidavit does not provide grounds for reconsideration. (Section 737.1, Title 23, California Administrative Code.)

Finally, it is not clear what the potential reduction of hydroelectric power generation and resulting revenue has to do with reconsideration of Decision 1600. The District has repeatedly stressed the efforts it is making to conserve water which, when successful, necessarily result in

the reduction of diversions and a corresponding decrease in hydroelectric power generation. IID Board of Directors' Resolution No. 8-84 establishes that District policy is to expand its conservation program with the goal of reducing inflow to the Salton Sea by 100,000 acre-feet by July 1, 1985. (IID Memorandum, 2/21/84, Exhibit 1.) If successfully implemented, this policy will reduce the District's revenue from hydroelectric power generation. Thus, the District's existing policy, as reaffirmed by Resolution No. 8-84, stresses that water conservation efforts within IID should be increased at the present time, even at the expense of incidental hydroelectric power generation. The District cannot seriously contend that Decision 1600 should be reconsidered for following the same policy.

3.1.3 *Fish, Wildlife and Recreation*

The District urges that use of Colorado River water for maintenance of the Salton Sea fish, wildlife, and recreational uses "constitutes a present benefical use — not a misuse". (IID Petition, p. 21.)

Two points should be noted at the outset. First, the evidence establishes that the Imperial Irrigation District is not operated with any intention of promoting the Salton Sea fishery. Neither its appropriative water right permits, nor its contract for water delivery with the Secretary of the Interior provide that fish and wildlife enhancement or recreation are authorized purposes of use for the water diverted by the District. IID presently treats the Salton Sea and surrounding property as a drainage reservoir for agricultural return flow and canal spills. An incidental beneficial effect of that inflow is to postpone the increase in the Salton Sea salinity. The fact that IID's operations result in an incidental beneficial

effect does not mean that the District is making an authorized beneficial use of water.

The second point to be recognized is that the issue is not whether the inflow into the Salton Sea has an incidental beneficial effect, but whether it is a *reasonable* and beneficial use of water. Decision 1600 expressly recognizes the beneficial effect of inflow to the Salton Sea on temporarily postponing the increase in the salinity. (Decision 1600, pp. 26, 59.) However, the decision also recognizes that the rising water level of the Salton Sea between 1971 and 1981 resulted in the flooding of approximately 15,750 acres of adjoining private and public land, and that, as of May of this year, the water level was continuing to rise. (Decision 1600, pp. 57, 58.)

In view of the limited life of the Salton Sea fishery under current conditions (Decision 1600, p. 61), the Board concludes that the beneficial effect of the present quantity of IID inflow is outweighed by the adverse effect of the rising water level on surrounding property and various uses associated with that property. Under present conditions, we do not believe that the existing quantity of IID inflow to the Salton Sea can be considered a reasonable use of water.[1] Although contrary to the position

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[1]A statement presented by the Salton Sea Fish and Wildlife Club at the Board meeting on June 21, 1984 urged that an order resulting in reduction of inflow to the Salton Sea would violate the Board's duty to protect the public trust. The Board recognizes the beneficial effects of freshwater inflow on Salton Sea salinity. The Board also recognizes, however, that in the absence of an expensive salinity control project, the salinity will inevitably increase unless ever greater amounts of freshwater are diverted into the Salton Sea resulting in an ever larger body of water. The public trust doctrine is based upon the State's ownership of navigable waterways and underlying lands as trustee for the benefit of the people. *Colberg Inc. v. State of California* (1967) 67 Cal.2d 408, 416; 62 Cal.Rptr. 401, 406.

urged in the District's petition, the Board's conclusion is consistent with the District's announced goal of reducing inflow to the Salton Sea by 100,000 acre-feet by July 1, 1985. (IID Board of Directors Resolution No. 8-84.)

3.2 *Proprietary of Considering the Effect of IID Operations on Flooded Property*

The second point stressed in the District's petition for reconsideration is that "the fact that water which is beneficially used may contribute to flooding does not constitute a misuse of water." (IID Petition, p. 24.) The issue, however, is not whether the existence of flooding constitutes a misuse of water, but whether the fact that productive property is being flooded should be considered in evaluating the reasonableness of IID water management policies. In essence, the position of the District is that the Board must consider the incidental beneficial effect of IID inflow on the Salton Sea fishery, but that it is barred from considering the adverse effects of that same inflow on the adjacent property and associated uses of that property. Such a position is neither logical nor consistent with prior judicial decisions.

Upon its admission to the Union in 1850, California acquired title as trustee to navigable waterways and underlying lands. *National Audubon Society v. Los Angeles* (1983) 33 Cal.3d 419, 435, 189 Cal.Rptr. 346, 355. No such title or public trust easement was acquired to the property underlying the present Salton Sea since the Sea was not created until 1905. Therefore, regardless of the extent to which the public trust doctrine may or may not apply to an artificial body of water, it is apparent that the doctrine does not justify continued inundation of property to which no public trust easement attaches. Although we believe that maintaining present levels of inflow is an improper way to postpone increases in the salinity level, we are encouraged by the District's concern about the fishery and by the discussion of physical solutions which could preserve the fishery indefinitely.

The nature of the inquiry into the reasonableness of a particular use or method of use of water was addressed by the California Supreme Court as follows:

> "The scope and technical complexity of issues concerning water resource management are unequalled by virtually any other type of activity presented to the courts. What constitutes a reasonable water use is dependent upon not only the *entire circumstances* presented but varies as the current situations changes." *Environmental Defense Fund v. East Bay Municipal Utility District* (1977) 20 Cal.3d 327, 344, 142 Cal.Rptr. 904, 913, 572 P.2d 1128, 1137. (Emphasis added.)

The District's petition repeats its previously stated position that determination of the nature and extent of private property rights is outside the jurisdiction of the Board. Contrary to the District's repeated inferences, the Board has made no attempt to evaluate issues regarding easements and liability for damages to others' property. In view of the broad interpretation which the courts have consistently given to Article X, Section 2 of the California Constitution, however, it is inconceivable how the District can argue that the adverse effects of District operations on thousands of acres of productive property are irrelevant to an evaluation of the reasonableness of District operations. Even if the Board's inquiry were limited to examination of the beneficial uses of water for irrigation, domestic uses and other purposes within the District, it is indisputable that the flooding of property in the vicinity of the Salton Sea has virtually eliminated the beneficial uses of water which previously existed on that property and which could be reestablished if the water level of the Salton Sea recedes.

Contrary to declared District policy, the petition for reconsideration suggests that it is reasonable for the District to continue the present methods of operation, at least until the demand for water for other uses increases. In reference to Decision 1600, the petition states:

> "Finally the Board suggests that 'the danger level for fish reproducton, [may occur] in less than five years whether or not a planned reduction in inflow takes place.' Decision 1600, 61. Again it is not understood what prompts the Board to postulate either the probability or advisability of 'a planned reduction in inflow.' . . . It is known that a reduction in inflow will not change the fact that damages have been caused to some private property in the past. But it is not known why IID should, at the present time, plan a reduction in inflow, only to have the water pass wastefully to the Gulf." (IID Petition for Reconsideration, p. 34.)

We make two observations with respect to the above statement. First, although a reduction of inflow will not eliminate past damage, it can reduce future damage to presently submerged property and prevent future flooding of additional property caused by continuing increases in the Salton Sea water level. Second, the Board was prompted to "postulate" the probability of a planned reduction in inflow to the Salton Sea based, in part, upon the provisions of IID Board of Directors Resolution No. 8-84. Among other things, the IID Resolution refers to the policy of the State of Constitution that the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water should be prevented, and it declares that the District shall improve its water conservation programs "*with the goal of reducing inflow to the Salton Sea* [by] *100,000 acre-feet by July 1, 1985.*" (Emphasis added.)

Decision 1600 expresses the Board's concern about the need for the District to identify precisely how the planned reduction of inflow is to be achieved. From the language of Resoluton No. 8-84, however, it is apparent that announced District policy recognizes the relationship between the present quantity of inflow to the Salton Sea and the reasonable use of water. The fact that Decision 1600 contains the same recognition does not provide grounds for reconsideration.[2]

3.3 *Other Beneficial Uses For Conserved Water*

The District's argument concerning other beneficial uses for conserved water is twofold. First, the District contends that there are no other beneficial uses for conserved water at the present time. Second, the District submits that the impending shortages of Colorado River water are irrelevant to a finding of present misuse. These contentions are discussed below.

3.3.1 *Present Beneficial Uses*

With respect to present alternative uses for conserved water, the record indicates that the parties to the Seven Party Agreement have had their orders for Colorado River water satisfied in recent years. From this evidence, the District asks us to conclude that there are presently no other beneficial uses to be made of conserved water

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[2]The petition for reconsideration also objects that the beneficial effects of reduced inflow to the Salton Sea discussed in Decision 1600 are "generalized speculations". (IID Petition, pp. 30-34.) There is ample evidence in the record for the Board's conclusions that a reduction in inflow would be likely to have the benefits noted. (Decision 1600, pp. 56-61 and passim.) Since the District's announced goal is to reduce inflow into the Salton Sea, however, we fail to understand the vehemence with which the petition argues that a reduction in present inflow would not be beneficial.

and that any water not diverted by IID would flow "wastefully" to the Gulf of California in violation of the constitutional mandate to maximize beneficial use. This argument cannot be accepted for several reasons.

First, as the Elmores point out, there was uncontroverted testimony that there is substantial storage capacity available in three Southern California groundwater basins. The arrangement between MWD and the Coachella Valley Water District provides an example of how a groundwater recharge project can work to the advantage of participating agencies. (Decision 1600, p. 54.) In recognition of the benefits of placing water in groundwater storage for future use, Water Code Section 1242 specifically provides that such storage is a beneficial use of water. Increased water conservation by IID would make additional water available for groundwater storage programs.

Also significant are the instream uses which could be made of water that becomes available as a result of IID conservation efforts. The discussion of alternative uses in Decision 1600 and much of the testimony at the hearing focused primarily on uses of conserved water for various consumptive uses within California. This was due to the evidence that present California water users will face reductions in Colorado River deliveries in the near future.[3] Since many of the potential water conservation measures identified may not be fully implemented before the impending shortages are expected to occur, it was reasonable to focus on the expected consumptive use requirements as alternative uses for conserved water. That does not mean, however, that water which is con-

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[3]See Decision 1600, pp. 52-56, for discussion of impending reductions of Colorado River water available to California water users.

served by IID in the meantime would serve no beneficial purpose.

The evidence in the record shows that the fishery and riparian vegetation in the lower Colorado River has improved significantly during past periods of high flows. There is also evidence that the fish populations downstream from Imperial Dam would be substantially increased by timed releases of water from Lake Mead and Lake Havasu. (Board 14, p. 31.) In most years, such releases would be facilitated by the availability of additional water due to increased water conservation by the Imperial Irrigation District.

Additional water made available as a result of water conservation could also be used to reduce the salinity in the Colorado River below Imperial Dam. The federal government has been extensively involved in the development of numerous salinity control projects aimed at decreasing salinity in the lower Colorado River. (USBR 1, pp. 1 and 2; Public Law 93-320, 43 U.S.C. § 1571 et seq.; Public Law 98-63). Some of these projects are directed at making more water available to be used for salinity control purposes below Imperial Dam. Ensuring that there is adequate water to meet the United States' treaty commitments to Mexico is purely a federal responsibility which is to be met without reducing the quantity of water allocated by the U.S. Supreme Court to California or to water users within California. Nevertheless, in view of the relatively high salinity normally present in the lower Colorado River, it is incorrect for IID to suggest that making water available for increased flows below Imperial Dam would serve no useful purpose.

In summary, water conserved by IID will be needed for consumptive use within California in the very near future. In the interim, however, any water which may be con-

served could be placed in groundwater storage or could be left in the Colorado River where it would serve the important purposes of fishery enhancement and salinity reduction.

3.3.2 *Future Beneficial Uses*

The IID petition argues that the impending shortages of Colorado River water available to other California users "can hardly influence a determination of whether IID is misusing water at the present time." (IID Petition for Reconsideration, p. 35.) As discussed above, the record shows that water conserved by IID could be put into groundwater storage or could be used for various instream uses in the lower Colorado River.

It is also important to realize that many water conservation measures will take a considerable period of time to implement fully. If, as the evidence shows, a serious water shortage is approaching in 1985, 1986, or shortly thereafter, then it is unreasonable not to take steps now to deal with the impending shortage. It is entirely appropriate for the Board's evaluation of District operations to be based, in part, on conditions which will exist within the period necessary to implement certain water conservation measures.

3.4 *Availability of Water Conservation Measures*

The petition for reconsideration contends that IID is not required to make investments to improve efficiency in order to provide water to junior appropriators. The petition further contends that adoption of any potential conservation measures will increase the cost for IID water users. As noted in Decision 1600, however, a recent appellate court decision acknowledged the fact that water users may be required to incur reasonable expenses if

necessary to comply with the constitutional mandate of reasonable use. *People ex rel. State Water Resources Control Board v. Forni*, 54 Cal.App.3d 743, 751-752; 126 Cal.Rptr. 851 (1976). Furthermore, in this instance, there was considerable evidence presented that implementation of additional water conservation measures in IID would be cost effective. If done as part of a water transfer arrangement with another user, the evidence indicates that additional water conservation would be in the District's economic interest. Under existing circumstances, the availability of practical water conservation measures is clearly relevant to evaluation of the reasonableness of IID's water management practices.

3.5 *Future Planning*

The District's petition stresses the desirability of planning for efficient water use at the local level. (IID Petition for Reconsideration, pp. 40-42.) Planning at the local level is entirely consistent with the provisions of the Board's order which directs the District to prepare the required water conservation plan. This plan will be subject to review and approval by the Board, but the initial preparation of a plan is primarily the District's responsibility.

3.6 *Summary of Board's Position Regarding IID Petition*

Most of the contentions raised in the District's petition were raised previously and were addressed in Decision 1600. The preceding paragraphs elaborate further on the Board's position regarding these subjects. The Board concludes that the petition does not provide grounds for reconsidering or revising Decision 1600.

4.0 ISSUES RAISED IN METROPOLITAN WATER DISTRICT PETITION

4.1 *Conclusion Regarding Misuse*

Metropolitan Water District requests that the Board rephrase the last sentence of the first paragraph on page 66 of Decision 1600 to state that additional water conservation measures are necessary to prevent a misuse of water. The suggested change would delete the finding of present misuse of water by IID. MWD suggests that the proposed wording would provide ample justification for the Board's order since Section 275 of the Water Code directs the Board to undertake all appropriate proceedings to "prevent" misuse. The MWD petition also argues that the present inability to quantify IID water losses accurately makes a finding of present misuse inappropriate.

The Board agrees that Water Code Section 275 provides jurisdiction to enter preventative orders to avoid an impending misuse of water. For the reasons described with respect to the IID petition, however, the Board believes that the record supports the finding of current misuse. The record is clear that the present method of District operations has had substantial adverse impacts on the District and others, that the District has not stringently or consistently implemented certain elements of its announced water conservation program and that there are other beneficial uses to be made of conserved water. Several additional practical methods of conserving water are described in the record. Under the circumstances, it is not necessary for the Board to quantify the amount of water which is unreasonably used in order to conclude that a misuse is occuring.

The difficulty in accurately quantifying the amount of water savings achievable through specific conservation measures is in large part due to incomplete or inaccurate recordkeeping by IID. The inability of the District to account for the large quantities of water losses in District operations is itself evidence that the District's existing water management practices are unreasonable. The District has acknowledged that it "has a present obligation to adopt more sophisticated measuring devices" and the Board's order specifically calls for development of accurate water accounting procedures by February 1, 1985. (IID Petition for Reconsideration, p. 40; Decision 1600, pp. 67, 68). In the interim, the Board has not directed the District to undertake any large capital improvements. Therefore, it is not necessary to revise any provisions of the decision due to the present limitations on data regarding IID operations.

MWD also expresses concern that a finding of present misuse may disrupt its efforts to participate in a joint water conservation program with IID "by unnecessarily polarizing the issues and the participants." (MWD Petition for Reconsideration, p. 5.) Its concern is based upon the possibility that Decision 1600 may be injected into ongoing litigation against the District involving issues outside of this Board's jurisdiction.[4]

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[4]Although this point is not mentioned in the IID Petition for Reconsideration, it was also raised on page 10 of the Supplemental Comments submitted by IID, dated June 20, 1984. These "Supplemental Comments" were resubmitted as an appendix to the IID Petition for Reconsideration. From counsel's oral remarks before the Board on June 21, 1984, the District's primary objection to the decision apparently is based on the concern that the decision might adversely affect the District's position in litigation not involved in this proceeding.

The Board's interest and responsibility in this proceeding do not extend to providing ammunition for parties in private litigation, on any side. It would be untenable to suggest, however, that the existence of private litigation justifies a policy of Board inaction in the face of substantial evidence of misuse of water. Such inaction would indeed abrogate the Board's true interest and responsibility, which is plainly articulated in Water Code Section 275 and reinforced by decisions of the Supreme Court and appellate courts of this State. (*Environmental Defense Fund, Inc. v. East Bay Municipal Utility District,* 20 Cal.3d 327, 142 Cal.Rptr. 904 (1977); *People v. Shirokow* 26 Cal.3d 301, 162 Cal.Rptr. 30 (1980); and *People ex rel. State Water Resources Control Board v. Forni* 54 Cal.App.3d 743, 126 Cal.Rptr. 851 (1976).) In addition, our research has failed to disclose any judicial recognition of a private cause of action for money damages predicated upon the Constitutional mandates and prohibitions of Article X, Section 2. It is true that the Constitutional requirements may provide a basis for granting injunctive relief to a private party; however, the existence of this remedy is fully consistent with the policy enunciated by the people of this State in approving the Constitutional provision which prohibits the waste of unreasonable use of water.

The Board shares MWD's concern that Decision 1600 not disrupt efforts to develop a more effective water conservation program. Whatever the Board's finding, however, it is equally possible that the finding would be referred to by some party in the ongoing litigation. The District has recently announced its willingness to prepare a water conservation plan as was previously requested by the Department of Water Resources. In view of this development, it is unfortunate for all parties that the matter was not resolved earlier without need of a formal

hearing. Having conducted an adjudicatory hearing as provided by law, however, the Board's findings must be governed by the record before it rather than on speculation regarding how a particular party might respond.

4.2 *Form of Order*

MWD also requests that the order be phrased as an "interim interlocutory order" due to the recognized need to develop additional information regarding IID operations. The Board recognizes that the order entered in Decision 1600 is not a final resolution of what water conservation measures should be implemented by IID. Based on that recognition, the Board has reserved jurisdiction, and any future orders will be based upon the record before the Board at that time. It is not necessary to change the form or title of the present order.

4.3 *Description of Proceeding*

MWD's final request is that the phrase "Water Rights Decision" be deleted from the cover of Decision 1600 since the proceeding does not involve an application to appropriate water. First, we note that although the phrase is on the cover of the decision, it is not a part of the actual decision adopted by the Board. Second, we note that although the proceeding did not involve Board action on an application to appropriate water, it does involve Board findings and an order regarding the manner in which IID's water rights must be exercised. Thus, we believe that Decision 1600 is properly referred to as a water rights decision.

5.0 BUREAU OF RECLAMATION COMMENTS

A letter dated July 18, 1984, was received from the Bureau of Reclamation stating that the Bureau believes

the Board "would be justified in reconsidering" Decision 1600. It is not clear whether the letter was intended to be a petition for reconsideration. If so, however, much of the proposed evidence referred to in the letter cannot be considered since: (1) the information was not presented at the hearing; (2) there is no showing that it could not have been produced at the hearing in the exercise of reasonable diligence, and (3) it is not presented in the form of an affidavit as required for new evidence submitted in support of a petition for reconsideration. (California Administrative Code, Title 23, Sections 737.1, 737.2.) Nevertheless, to the extent that the Bureau's arguments are based on the evidence in the record, the Board will briefly address them.

The Bureau's first contention is that several points were given inadequate consideration in reaching a conclusion of present misuse. With the exception of new evidence which is not in the record, all of the facts referred to in the Bureau's letter were considered in the formulation of Decision 1600. Most of the subjects to which the Bureau refers are further elaborated on in the preceding sections of this order. The Board believes there is ample evidence to support a finding of current misuse.

The second point raised in the Bureau's letter is the contention that a comprehensive water conservation plan cannot be prepared by February 1, 1985. However, the District advised the Board prior to adoption of Decision 1600 that the "scope of the proposed order, as understood by IID, is acceptable to IID." (Supplemental Comments by IID, June 20, 1984.) Similarly, the District's petition for reconsideration makes no suggestion that the required plan cannot be prepared by the time specified. The Board recognizes that certain aspects of the District's plan may be revised based on future information and future devel-

opments, but that is no justification to postpone preparation of a water conservation plan which is necessary to eliminate a current misuse of water. The Board believes that the seven-month period previously specified in Decision 1600 for preparation of a water conservation plan is adequate.

6.0 CONCLUSION

None of the parties requesting reconsideration of Decision 1600 argue that Imperial Irrigation District should not expand its water conservation efforts. Prior to adoption of the order, the District even advised the Board that the scope of the proposed order was acceptable. The stated concern of the three parties seeking reconsideration is that the Board is unjustified in finding a current misuse of water. For the reasons discussed above and in Decision 1600, we affirm our previous conclusion that the District's failure to implement additional water conservation measures is unreasonable. Further, the record demonstrates that the present water management practices of the Imperial Irrigation District are resulting in a misuse of water. The petitions for reconsideration do not present sufficient cause to reconsider Decision 1600.

ORDER

NOW, THEREFORE, IT IS ORDERED THAT:

a. The petition for reconsideration of Decision 1600 filed by the Imperial Irrigation District is denied.

b. The petition for reconsideration of Decision 1600 filed by The Metropolitan Water District of Southern California is denied.

c. The request for reconsideration of Decision 1600 submitted by the United States Bureau of Reclamation is denied.

d. The findings and order of Decision 1600 are affirmed.

Dated: September 20, 1984

/s/ CAROLE A. ONORATO
CAROLE A. ONORATO, Chairwoman

/s/ WARREN D. NOTEWARE
WARREN D. NOTEWARE, Vice-Chairman

/s/ KENNETH W. WILLIS
KENNETH W. WILLIS, Member

/s/ DARLENE E. RUIZ
DARLENE E. RUIZ, Member

/s/ EDWIN H. FINSTER
EDWIN H. FINSTER, Member

DECISION 1600

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

County: Imperial

In the Matter of

ALLEGED WASTE AND UNREASONABLE USE OF WATER BY IMPERIAL IRRIGATION DISTRICT

DECISION REGARDING MISUSE OF WATER BY IMPERIAL IRRIGATION DISTRICT

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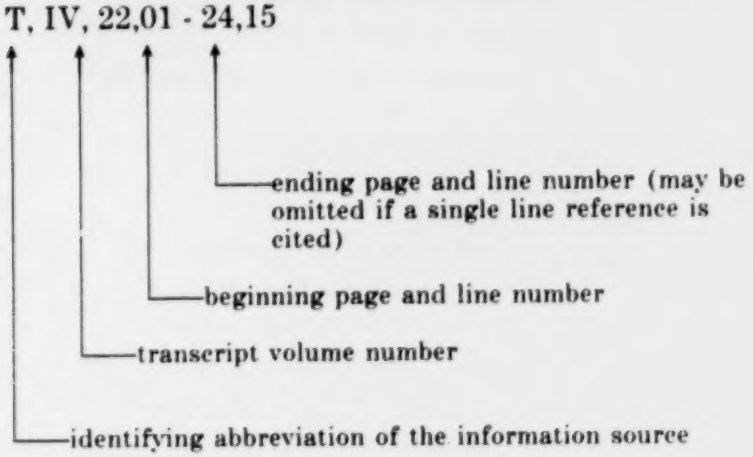
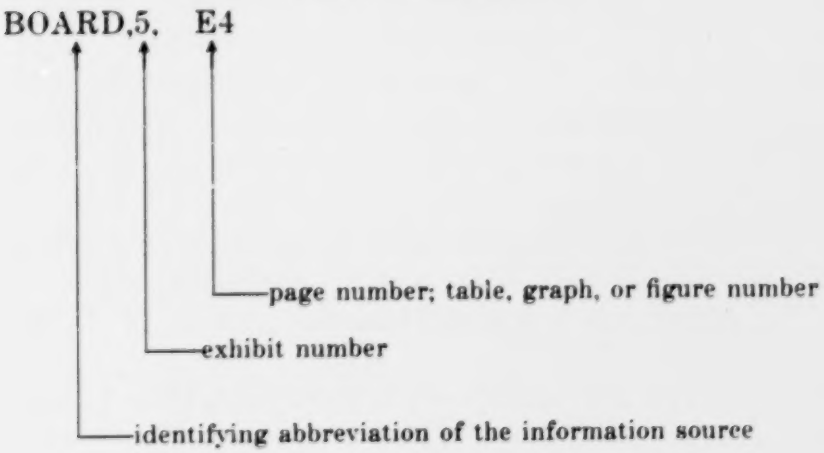
CITING THE RECORD

When citing evidence in the hearing record, the following convention has been adopted:

Information derived from the *hearing transcript:*



Information derived from an *exhibit:*



Abbreviations of the information sources are:

Elmore	John Elmore
DWR	Department of Water Resources
IID	Imperial Irrigation District
CWA	California Waterfowl Association
CRB	Colorado River Board
EDF	Environmental Defense Fund
CVWD	Coachella Valley Water District
DFG	Department of Fish and Game
SSPO	Salton Sea Property Owners
USBR	U.S. Bureau of Reclamation
WCB	IID Water Conservation Advisory Board
T	Hearing Transcript
Board	State Water Resources Control Board

DECISION REGARDING MISUSE OF WATER[1] BY IMPERIAL IRRIGATION DISTRICT

BY THE BOARD:

Mr. John Elmore (complainant) having filed a request for an investigation of the alleged waste and unreasonable use of water by the Imperial Irrigation District (IID or District); the Department of Water Resources (Department or DWR) having conducted an investigation, prepared a report and determined that a misuse of water was occurring; the District having failed to take steps to correct the problem to the satisfaction of the Department; the Department having referred the matter to the Board for hearing pursuant to California Administrative Code, Title 23, Section 4004; the Board having conducted six days of public hearing in El Centro, California; the complainant, the District, the Department of Water Resources and other interested parties having appeared and presented evidence; written closing statements and legal briefs having been submitted; the evidence, closing statements and legal briefs having been received and duly considered; the Board finds as follows:

2.0 SUBJECT OF DECISION

In response to a complaint alleging waste and unreasonable use of water by Imperial Irrigation District (District), a hearing before the State Water Resources Control Board was held on September 27, 28 and 29, 1983, and December 12, 13 and 14, 1983, in El Centro, California. The purpose of the hearing was to provide an

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[1]Article X, Section 2 of the California Constitution prohibits the waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of water. All of these practices are included in the definition of "misuse of water" set forth in Title 23, Section 4000 of the California Administrative Code.

opportunity for all interested parties to present evidence to assist the Board in determining if the practices of the Imperial Irrigation District result in waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in violation of Article X, Section 2 of the California Constitution. Most of the evidence presented fell into three broad categories: extent of water losses and opportunities for conserving water within the Imperial Irrigation District; other beneficial uses and users for water that might be conserved within the IID; and the effect of IID water management practices on the Salton Sea and surrounding area. On the basis of the evidence presented, the arguments of the parties, and consideration of applicable law, the Board concludes that the provisions of Article X, Section 2 of the California Constitution require that the Imperial Irrigation District take several actions to improve its water conservation program, as specified in this decision.

3.0 BACKGROUND OF PROCEEDING

By letter dated July 17, 1980, Mr. John Elmore requested the Department of Water Resources to conduct an investigation of the alleged misuse of water by the Imperial Irrigation District. Mr. Elmore's letter identified five specific practices of the District or conditions within the District which allegedly resulted in a waste and unreasonable use of water. (See Section 4.0.) By letter dated July 18, 1980, Mr. Elmore requested that this Board conduct a hearing on the alleged misuse of water by the IID at the termination of the Department's investigation or the expiration of a reasonable time for such an investigation.

In response to Mr. Elmore's request, the Department of Water Resources conducted an investigation of water usage within IID. In December 1981, the Department

submitted a Report of Investigation which found that although operations of IID were improving, water was being wasted that could be conserved for other beneficial uses. (DWR, 1, Foreword, p. iii; DWR, 10.) The DWR report identified a potential for conserving 438,000 acre-feet per annum (afa) through a combination of physical improvements and operational changes within IID. (DWR, 1, p. 56.) The Department notified the District of the findings of the report and requested that it submit a water conservation plan within six months.

The District initially agreed to prepare a water conservation plan, and later requested an extension of time to submit the plan. (IID, 10B; IID, 10C.) By letter dated September 29, 1982, however, the District reviewed its water conservation efforts and advised the Department that the District considered its use of water to be reasonable and not to involve unnecessary waste. (IID, 10D.) The Department concluded that the IID letter was not responsive to the request to develop a water conservation plan and referred the matter to the Board pursuant to the provisions of California Administrative Code, Title 23, Sections 4000 et seq.

By letter to Board Chairwoman Carole Onorato dated May 3, 1983, Mr. Elmore's attorney renewed his request for a hearing or enforcement proceedings to eliminate the alleged misuse of water by the IID. Other letters supporting Mr. Elmore's request for a hearing were received from Francis E. and Elizabeth D. Griset; R. Raymond and Jean Campbell Griset; attorney Lowell F. Southerland on behalf of some 70 property owners in the vicinity of the Salton Sea; Citizens for a Better Environment; Harold Kelso Hunt, II; and the Environmental Defense Fund. (Board 1, Correspondence File.) In accordance with Cali-

fornia Administrative Code, Title 23, Section 4004, the Board scheduled the matter for hearing.

4.0 ALLEGATIONS OF JOHN ELMORE

By letter dated June 17, 1980, John Elmore requested the Department of Water Resources to investigate the alleged misuse of water by Imperial Irrigation District resulting from allegedly wasteful management and marketing practices. (DWR, 1, Appendix A.) Mr. Elmore is a farmer with acreage adjacent to the Salton Sea which he has had to protect with dikes due to the rising level of the Salton Sea. His letter alleges that the rise in the level of the Salton Sea has been caused by the following policies and practices within the Imperial Irrigation District:

a. Maintaining canals in overly full conditions causes frequent spills at the terminal end of the canals.

b. The absence of reservoirs for regulation of canal flows causes the unnecessary delivery of excess amounts of water. This results in canal spills and runoff into the Salton Sea.

c. Excess water is delivered to farmers' headgates resulting in excess tailwater.

d. There is an absence of tailwater recovery systems within the IID. Tailwater recovery systems would allow use of runoff for productive purposes.

e. Farmers are required to order water in 24-hour delivery intervals and the delivery cannot reasonably be terminated after sufficient water is received. Excess water from the deliveries drains unused into the Salton Sea.

The allegations of Mr. Elmore's complaint and other aspects of Imperial Irrigation District operations are addressed in Section 10 below.

5.0 DESCRIPTION OF IMPERIAL IRRIGATION DISTRICT

5.1 *Geographic Description*

The Imperial Irrigation District is located in Imperial County between the southern end of the Salton Sea and the Mexican border. The New and Alamo Rivers traverse the valley from Mexico to the Salton Sea which is a natural sump. The IID encompasses 1,062,290 acres, of which about 460,000 acres are irrigated each year. The main crops grown in the Imperial Valley are alfalfa, wheat, cotton, sugar beets and lettuce. There are approximately 16,000 acres devoted to urban land use with a population of about 95,000 concentrated mainly in the towns of El Centro, Brawley and Calexico.

The soils within the IID vary from the Imperial Clays with a low permeability to highly permeable sandy soils. There is a high degree of unpredictable stratification of the soils within the District. This makes it difficult to apply water evenly and to obtain the necessary penetration for effectively leaching salts from the soil. Land leveling has helped in attaining water penetration of the soils with low permeability. Extensive tile drain installation has been required to keep the soil from becoming water logged and to attain the leaching needed because of salts in the soil and irrigation water.

The average annual rainfall in the area is approximately 2.8 inches. (DWR, 1, p. 5.) From 1976 through 1981 rainfall measured at three gaging stations around the Salton Sea averaged about 4.5 inches per year due to several large tropical storms. (Board 1, 1982 Hess Geo-

technical Corp. report, Volume 1.) Complete records of rainfall measurements in the Imperial Valley are shown in Board Exhibit 5.

5.2 *Irrigation Delivery and Drainage System*

All irrigation, municipal, industrial and domestic water used within the Imperial Valley is supplied by the IID from the Colorado River. The delivery system which begins at the Imperial Dam includes about 1,760 miles of conveyance and distribution facilities.

When the IID places an order for water with the U.S. Department of Interior, Bureau of Reclamation (Bureau or USBR), the request is made six to ten days prior to the time the water is to be delivered to the farmers' headgates. Water which is to be diverted into the All-American Canal at Imperial Dam must be released from Hoover Dam approximately 305 miles upstream. The water passes through U.S. Bureau of Reclamation facilities at Lake Mojave and Lake Havasu on the Colorado River before flowing downstream to Imperial Dam. Water which is diverted into the All-American Canal is distributed to the East Highline, Central Main and Westside Main Canals which are the three major canals that supply water to the smaller canals throughout the valley. The water is regulated by approximately 500 control gates and 5,500 farmer headgates. This entire delivery system operates through gravity flow.

The IID also operates and maintains approximately 1,450 miles of drainage canals to collect irrigation return flows. These canals drain into the New and Alamo Rivers which in turn drain into the Salton Sea. During the period 1965 to 1980, IID diversions from the Colorado River averaged 2,855,000 afa. (IID, 16, Attachment 3.) Of this amount, an average of 1,036,446 afa entered the Salton

Sea as irrigation return flow from IID. IID return flow constituted about 71 percent of all inflow to the Salton Sea during the years mentioned. (Elmore, 3, Table 3.)

5.3 *Hydroelectric Power Generation*

The IID has constructed and operates hydroelectric power plants at Drops 1 through 5 along the All-American Canal. The flow capacities for these power plants are as follows:

Drop #1	5,350 cfs
Drop #2	6,000 cfs
Drop #3	6,000 cfs
Drop #4	6,000 cfs
Drop #5	3,000 cfs

(T, IV, 67, 18-68,03; attachment to letter dated October 13, 1983 from R. L. Knox to Raymond Walsh of the SWRCB.) From 1960 to 1982 there has been an increase in the generation of power from 69.5 to 81.4 Kilowatt hours per acre-foot. The revenue from this power has increased in the same period from $1.096 to $4.649 per af. (IID, 16, Attach. 25.) At present day costs, 100,000 af of water would generate $464,900 in revenue for the IID. IID submitted evidence indicating that all the water diverted through the All-American Canal passes through the power plants and is used to generate electricity. (IID, 6, p. 4.)

6.0 PARTICIPANTS AT HEARING

The following parties made evidentiary presentations at the hearing: Mr. John Elmore, Department of Water Resources, Imperial Irrigation District, California Waterfowl Association, Colorado River Board, Environmental Defense Fund, Coachella Valley Water District, Depart-

ment of Fish and Game, Salton Sea Property Owners, [2] U.S. Bureau of Reclamation, and the Imperial Irrigation District Water Conservation Advisory Board.

In addition to parties making evidentiary presentations, the following persons made non-evidentiary policy statements at the time of the hearing: Dr. Wiley Horne, representing Metropolitan Water District (MWD); Mr. William DuBois; Mr. Robert Adams; Mr. Ross Deter, representing the California Energy Commission; Mr. Bob Goodson, representing Southern California Edison; Mr. James M. Bucher; Mr. Luis Legaspi, representing the Imperial County Board of Supervisors; Mr. Jack Strobel; Mr. Ron Ackert, representing the Salton Sea Fish and Wildlife Club; Ms. Margaret Matsui, representing the Vantuna Research Group of Occidental College; Mr. Cliff Hurley; Mr. Charles Westmoreland; and Mr. Lloyd Heger.

7.0 WATER RIGHTS

The right of Imperial Irrigation District to divert and use water from the Colorado River is not at issue in this proceeding except insofar as that right is limited by the State Constitutional prohibition of waste and unreasonable use or method of use of water. (California Constitution, Article X, Section 2.) As discussed in Section 8.0, however, an important aspect of determining the reasona-

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[2]The plaintiffs in two separate lawsuits against IID participated in this proceeding through their attorney, Lowell F. Southerland, and were referred to as the "Salton Sea Property Owners". The lawsuits in which said parties are plaintiffs are *Salton Bay Marina, Inc., et al. v. Imperial Irrigation District* (Imperial County Superior Court No. 48157) and *Anderson, et al. v. Imperial Irrigation District and Coachella Valley Water District* (Imperial County Superior Court No. 57249). Appeals in both cases are pending.

bleness of the District's present water usage is to examine the alternative uses which may be made of water saved through conservation. The Colorado River is an interstate watercourse which has been subject to considerable water rights litigation. Consequently, the evaluation of alternative uses necessarily involves review of the legal framework governing the allocation of Colorado River water among competing users.

7.1 *Boulder Canyon Project Act*

The Boulder Canyon Project Act was enacted on December 21, 1928. (43 U.S.C. §§ 617 et seq.) The purposes of the Act are flood control, improvement of navigation, regulation of flows, storage and delivery of stored waters for reclamation and other beneficial uses exclusively within the United States, and for the generation of electric energy. The Act authorizes construction of Hoover Dam and Power Plant and construction of the All-American Canal serving the Imperial and Coachella Valleys.

Section 5 of the Boulder Canyon Project Act authorizes the Secretary of the Interior (Secretary) to enter into water delivery contracts with users in the lower basin states. The section also provides that no person can have the use of stored Colorado River water without a contract with the Secretary. (43 U.S.C. § 617d.) Before entering into any agreements with water users in California, the Secretary requested the State to agree on a listing of relative priorities of rights among the major users of Colorado River water. The result of this request was the "California Seven-Party Agreement" of August 18, 1931.

7.2 *California Seven-Party Agreement*

The parties to this agreement agreed that their respective claims to Colorado River water should be accorded the following priorities:

TABLE 1

WATER ALLOTMENT — CALIFORNIA SEVEN-PARTY AGREEMENT

Priority	Description	Acre-feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres	3,850,000
2	Yuma Project (Reservation Division) not exceeding a gross area of 25,000 acres	
3(a)	Imperial Irrigation District and lands in Imperial and Coachella Valleys to be served by AAC	
3(b)	Palo Verde Irrigation District — 16,000 acres of mesa lands	
4	Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain	550,000
5(a)	Metropolitan Water District and/or City of Los Angeles and/or others on coastal plain	550,000
5(b)	City and/or County of San Diego	112,000
6(a)	Imperial Irrigation District and lands in Imperial and Coachella Valleys	300,000
6(b)	Palo Verde Irrigation District — 16,000 acres of mesa lands	
	Total	5,362,000

Under the Supreme Court decision in *Arizona v. California,* 373 U.S. 546, 83 S.Ct. 1468 (1963), California's share of the 7.5 million acre-feet per annum (mafa) allocated to the lower basin states is limited to 4.4 mafa plus one-half of any surplus over the 7.5 mafa. Thus, California's allotment when no surplus water is present

would fulfill only the first four priority claims. Of the total 1,212,000 afa to which Metropolitan Water District has claims,[3] only 550,000 afa will be provided if California is limited to a total of 4.4 mafa. This amount could be further reduced if other rights and claims not covered by the Seven-Party Agreement are deducted from MWD's fourth priority right (CRB, 1, Table 2.) If use of water by any of the higher priority users were reduced below the agreed upon allotments, however, the unused water would be available to Metropolitan Water District or the other parties to the agreement in order of priority as specified in the above schedule.

7.3 *Water Delivery Contracts*

Following execution of the Seven-Party Agreement in 1931, the Secretary of the Interior entered into water delivery contracts with the water users in California. Each of the current contracts with the parties to the Seven-Party Agreement includes the complete schedule of priorities and quantities established by that agreement. (CRB, 1, p. 10.) Thus, under the contract between the Secretary of the Interior and IID dated December 1, 1932, the IID and the other areas listed in the first three priorities of the Seven-Party Agreement are to receive 3,850,000 afa total. Of this amount, IID's "present perfected right"[4] has been determined to be the lesser of

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[3]This includes the MWD allotments which total 1.1 mafa as shown in Table 1 plus the allotment to the City and/or County of San Diego of 112,000 afa that has been assigned to MWD.

[4]"Present perfected right" was defined by the Supreme Court as a "water right acquired in accordance with state law, which has been exercised by the actual diversion of a specific quantity of water that has been applied to a defined area of land or to definite municipal or industrial works" and, in addition, present perfected rights include rights created by federal reservation whether or not applied to

2,600,000 afa or the quantity necessary to supply the consumptive use required for irrigation of 424,145 acres and for satisfaction of related uses. *Arizona v. California*, 439 U.S. 419, 429 (1979). To the extent that the first and second priority users do not utilize their full allotments, IID may receive additional water. In recent years, IID's water use has averaged about 2,900,000 afa. (DWR, 1, p. 50.)

7.4 *U.S. Supreme Court Decisions*

Although the Boulder Canyon Project Act authorized the lower basin states to enter into an agreement allocating their respective shares of Colorado River water, no such agreement was reached. Nevertheless, the Secretary of the Interior entered into contracts for delivery of water to users in the lower basin states, before the water rights of each state were resolved. In order to obtain Congressional authorization for the Central Arizona Project, Arizona filed suit in the Supreme Court in 1952 against California and seven public agencies within California. Following an extensive trial, the Supreme Court issued its opinion on June 3, 1963. (*Arizona v. California*, 373 U.S. 546, 83 S.Ct. 1468.)

Three points in the Court's opinion are particularly significant with respect to determination of the rights of California as a state, and the rights of the water users within the state to the water of the Colorado River. First, the Court concluded that by enacting the Boulder Canyon Project Act, Congress established a statutory apportionment of mainstream Colorado River water among the lower basin states. The division of water adopted by

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beneficial use. As used in the *Arizona v. California* decree, present perfected rights were determined as rights existing as of June 25, 1929, the effective date of the Boulder Canyon Project Act. (376 U.S. 340, 341, 84 S.Ct. 755, 756 (1964).)

Congress allocates 4.4 mafa to California, 2.8 mafa to Arizona and 300,000 afa to Nevada. Any surplus water after the first 7.5 mafa would be divided evenly between Arizona and California. Although the lower basin states had failed to enter into an agreement as authorized by the Act, the Court concluded that the Act gave the Secretary of the Interior adequate authority to accomplish the allocation of water among the lower states by empowering the Secretary of the Interior to make contracts for water delivery and by providing that no person could have water without a contract. (*Id.*, 373 U.S. at 564, 565, 83 S.Ct. at 1480.)

The second important point of the Supreme Court decision is that it settled the issue of whether the allocation of water reflected in the Boulder Canyon Project Act referred to water in the Colorado River and its tributaries, or whether it referred only to water in the "mainstream" of the river. Contrary to California's position, the Court held that Congress intended the allocation to apply only to mainstream water downstream from Lee Ferry and not to water in Colorado River tributaries downstream of that point. (373 U.S. at 572, 83 S.Ct. at 1483.)

The third point relevant to evaluation of California water users' rights to Colorado River water is that the Court held that Congress intended that the contracts entered into by the Secretary of the Interior would determine which users within each state were entitled to receive water. The Court further held that the Secretary's contracts were not limited by the law of prior appropriation. (373 U.S. at 580, 581, 83 S.Ct. at 1487, 1488.) However, the Court went on to acknowledge that despite the significance of the Secretary's contracts, Section 18 of the Boulder Canyon Project Act "plainly allows the States to do things not inconsistent with the Project Act

or with federal control of the river." (373 U.S. at 588, 83 S.Ct. at 1491, 1492.)

The role of state law with respect to the water rights of Imperial Irrigation District was explained further by the Supreme Court decision in *Bryant v. Yellen,* 447 U.S. 352, 100 S.Ct. 2231 (1980):

> "In the first place, it bears emphasizing that the § 6 [of the Boulder Canyon Project Act] perfected right is a water right operating under state law . . . in providing for these rights the Secretary [of Interior] must take account of state law. In this respect, state law was not displaced by the Project Act and must be consulted in determining the content and characteristics of the water right that was adjudicated to the District by our decree [in *Arizona v. California*]." 447 U.S. at 371, 372.

Regulation to prevent waste and unreasonable use of water within each of the states receiving Colorado River water is not inconsistent with any provision of the Boulder Canyon Project Act. Further, as discussed in Section 8.0 below, regulation to prevent waste and unreasonable use of water is a clearly established element of California water law. Therefore, in accordance with the Supreme Court decisions in *Arizona v. California, supra,* and *Bryant v. Yellen, supra,* the use of water by Imperial Irrigation District is subject to the provisions of California law regarding waste and unreasonable use.

7.5 *Transfer of Conserved Water*

Under the existing allocation system, conserved water not used by IID would be available to other parties to the Seven-Party Agreement in order of priority. In appropriate conditions, the conserved water presumably could be transferred directly to another party by agreement be-

tween IID and the other party. Due to the structure of the Seven-Party Agreement, it may also be prudent to secure the consent of parties who hold higher priority rights than are held by the party to whom the conserved water would be transferred. As a practical matter, consent to the transfer by the Secretary of the Interior or his designee would be required since the Bureau of Reclamation controls the flow of Colorado River water. The written statement submitted by the Bureau of Reclamation indicates that the major incentive for the Bureau to study water conservation potential within the IID was to identify water which could be made available to other users. (USBR, 1, p. 3.) Thus, the evidence indicates that the Bureau would support a workable water transfer arrangement.

The representative of the Colorado River Board expressed the opinion that the consent of all parties to the Seven-Party Agreement would be required to achieve a direct transfer (T, IV, 102,19-103,11), but the agreement itself is silent on the subject. If a given party were not adversely affected by a proposed transfer, it is by no means certain that the party's consent would be required. Even if consent of all seven parties were required, there has been no indication that such consent would not be forthcoming.

One example of a water transfer arrangement is presently in effect. The transfer involves an agreement between MWD and the Coachella Valley Water District (CVWD) for use of a portion of the water conserved by lining the Coachella Branch of the All-American Canal. At such times as the CVWD does not need all or a portion of the conserved water, MWD will be able to receive the water in exchange for paying a portion of CVWD's repay-

ment costs of lining the Coachella Branch of the All-American Canal. (EDF, 3, 61.)

The distribution of Colorado River water among California water users is governed by the users' contracts with the Secretary of the Interior. In addition to contractual rights to the delivery of water by the USBR, IID holds appropriative water right permits from the State.[5] Following the *Arizona v. California* decision, *supra*, the role of the state permit system is not entirely clear. However, if the IID were to engage in a water transfer arrangement, the area of use specified in the permits could be amended following submission and approval of a petition to change the place of use. (Water Code Sections 1701 et seq.) Where other water users are not adversely affected, no provision of state law would prevent a transfer of water from occurring. In fact, Water Code Section 1011 expressly authorizes the sale, lease, exchange or other transfer of water saved through conservation efforts. Under appropriate circumstances, the maximum beneficial use provision of Article X, Section 2 of the California Constitution may mandate the transfer of surplus water to water-short areas.

In summary, although a direct water transfer arrangement would require agreement between IID and another participating party, together with at least the tacit approval of the Bureau of Reclamation, there do not appear to be any significant legal barriers to such a transfer.

7.6 *Summary of Water Right Considerations*

The Supreme Court's ruling in *Arizona v. California*, *supra*, established that rights to water from the main

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[5]Imperial Irrigation District has received water right permits on Applications 7482, 7739, 7740, 7741, 7742, 7743, and 8534.

stem of the lower Colorado River are governed primarily by the provisions of water delivery contracts with the Secretary of the Interior. In the case of California users, the water delivery contracts are based upon the Seven-Party Agreement which in turn is based upon claims to water rights acquired under state law. The priorities reflected in the Seven-Party Agreement were carried over into the Secretary of the Interior's contracts with major California water users.

The Supreme Court's 1964 decree calls for delivery of 4.4 mafa to California water users out of the first 7.5 mafa available to the lower basin states. (*Arizona v. California*, 376 U.S. 340, 84 S.Ct. 755.) Subsequent legislation provides that the Secretary must deliver at least 4.4 mafa to California at any time the Central Arizona Project diverts any water. (43 U.S.C. § 1521(b).) In addition to the 4.4 mafa, the Secretary must deliver to California half of any surplus over 7.5 mafa which he determines is available to the lower basin states. In addition, the Secretary can allow California to divert water allocated to Nevada and Arizona which they cannot use in a particular year. A reduction of water diversion by Imperial Irrigation District would increase the water available to serve unfulfilled contractual demands by California water users. A reduction of water diversion by IID could also occur as part of a water transfer agreement. The subject of alternative uses and demand for water conserved by IID is addressed below in Section 11.

8.0 LEGAL ASPECTS OF WASTE AND UNREASONABLE USE DETERMINATIONS

8.1 *Constitutional and Statutory Provisions*

The State's policy on prevention of waste and unreasonable use of water is based upon Article X, Section 2 of the California Constitution which provides:

> "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water .... This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained."

A similar limitation is repeated in Section 100 of the Water Code. In addition, Section 275 of the Water Code charges the Department of Water Resources and the State Water Resources Control Board with the responsibility of preventing the misuse of water:

> "The department [of Water Resources] and board [the State Water Resources Control Board] shall

take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this State."

The language of the California Constitution and the Water Code refer to "waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water" as matters which are to be prevented. This broad language clearly establishes that any misuse of water is prohibited whether the misuse results from the type of use, the manner of use or the manner of diverting the water to the place of intended use. Since all types of misuse are prohibited, it generally is not productive to attempt to label a given practice or situation as an "unreasonable use" as opposed to an "unreasonable method of use", etc. In all instances, the key determination is one of reasonableness. This fact is implicitly recognized in the administrative regulations discussed below which refer generally to the "misuse" of water.

8.2 *Joint Administrative Regulations*

As previously discussed in Section 3.0, the present case was brought to the attention of the Board and the Department of Water Resources by a complaint filed by John Elmore pursuant to Title 23 of the California Administrative Code, Sections 4000 et seq. These regulations establish a procedure for investigating alleged misuses of water and notifying the water supplier of findings of the investigation. Normally, the investigation is conducted by the Department of Water Resources. If a misuse of water is determined to exist by DWR's investigation, the water supplier must either terminate the misuse or demonstrate that no misuse has occurred or is occurring. If the water

supplier fails to do so within the time specified by DWR, the regulations provide that the Board may hold a hearing to determine if a misuse of water has occurred or is occurring. After the hearing, the Board may issue an order requiring prevention or termination of any misuse of water. The Title 23 regulations also describe various enforcement procedures available to the Board.

The brief submitted by IID after the close of the hearing suggests that the Department of Water Resources may not have concluded that the District's practices result in a waste or unreasonable use of water, and that therefore there may have been no need for a hearing before the Board. (IID Brief, 2/21/84, p. 3.) The District bases this suggestion in part upon the statement by DWR witness Clyde Arnold that waste of water in these proceedings is now a matter for determination by the Board. (T, III, 16, 10-15.) The District also cites a statement from a letter from former DWR Director Ron Robie to Imperial Irrigation District that it is "not presently economic for you [IID] to salvage much of this water for your own uses." (Board, 1, Correspondence File, letter dated 12/31/82 from Ron Robie to Gerald Moore, President of the IID Board of Directors.)

The Board believes that a thorough review of the record leaves no doubt that the Department concluded that IID practices result in a misuse of water. Following completion of its investigation, the Department advised both the District and the IID farmers of its conclusion that waste and misuse of water was occurring. (DWR Exhs. 9 and 10; T, III, 2,1 - 3,24.) Similarly, the Department repeated its conclusion that there was a "waste of water" within IID in its letter dated November 1, 1982, referring the matter to the Board for hearing. (Board, 1, Correspondence File, letter dated 11/1/82 from Ron Robie to

Carole Onorato, Chairwoman, SWRCB.) Finally, the written closing statement of the Department reviews the basis for the Department's conclusions regarding misuse of water and cites evidence in the DWR report of investigation in support of that conclusion. (DWR Closing Statement, 2/21/84.)

In summary, the Board concludes that the procedural steps established by California Administrative Code, Title 23, Sections 4000 et seq. have been followed. It should be recognized, however, that Section 4007 of the regulations provides that said regulations shall not be construed as a limitation or constraint on the authority of the Board or DWR to prevent the misuse of water. Thus, the general authorization for the Board to take all appropriate actions to prevent waste or unreasonable use of water under Water Code Section 275 is not limited by any provisions of the Title 23 regulations.

8.3 *Meaning of Reasonable and Beneficial Use Requirement*

The "reasonableness" of the diversion and use of water within IID cannot be determined in the abstract or by some inflexible standard. The California Supreme Court has described the nature of the reasonable and beneficial use requirement of the California Constitution as follows:

> "What is a beneficial use, of course, depends upon the facts and circumstances of each case. What may be a reasonable beneficial use, where water is present in excess of all needs, would not be a reasonable beneficial use in an area of great scarcity and great need. *What is a beneficial use at one time may, because of changed conditions, become a waste of water at a later time.*" (*Tulare Irr. Dist. v. Lindsay-Strathmore*

Irr. Distr., 3 Cal.2d 489, 45 P.2d 972, 1007 (1935), emphasis added.)

In a more recent decision, the Court elaborated further on the meaning of the reasonable use standard and stated:

> "Although, as we have said, what is a reasonable use of water depends on the circumstances of each case, such an inquiry cannot be resolved in vacuo isolated from state-wide considerations of transcendent importance. Paramount among these we see the ever increasing need for the conservation of water in this state, an inescapable reality of life quite apart from its express recognition in the 1928 amendment [now Article X, Section 2 of the California Constitution]." *Joslin v. Marin Municipal Water District,* 67 Cal.2d 132, 429 P.2d 889 (1967), cited with approval in *Environmental Defense Fund, Inc. v. East Bay Municipal Utility District,* 26 Cal.3d 183, 161 Cal.Rptr. 466 (1980).

Thus, in determining the "reasonableness" of water usage within IID, the law requires an examination of the ascertainable facts concerning such water usage and an evaluation of such facts in view of the increasing need for water conservation within California. Although each case must be evaluated on its own merits, prior court decisions, prior decisions of the Board, and several statutes provide guidance in evaluating water usage within Imperial Irrigation District.[6] Several factors which should be considered are described below.

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[6]See Kramer and Turner, "Prevention of Waste and Unreasonable Use of Water: The California Experience". 1. Agricultural Law Journal 519, 522 (1980).

8.4 *Factors to be Considered in Evaluating Instances of Alleged Waste and Unreasonable Use*

8.4.1 *Other Potential Beneficial Uses for Conserved Water*

One of the most important factors to be considered in evaluating the reasonableness of IID's present use of water is identification of other beneficial uses to be made of water which could be conserved. In *Joslin v. Marin Municipal Water District, Id.*, the court weighed the competing demands for water of a water district and the people it served against the demands of a riparian landowner who depended upon an unobstructed flow of water to replenish the rock and gravel which the landowner excavated from the streambed and sold. The Court concluded that the riparian's insistence on the full unobstructed flow was unreasonable. Similarly, in SWRCB Decision 1463 the Board concluded that filling a recreational lake during a drought was an unreasonable use of water since the same water could otherwise be used to reduce the need for water imports from Northern California where several areas were experiencing water shortages.

The position of IID is that "[i]f there are no competing users and some beneficial use is being made of the water, the water involved may be considered surplus water, but it is not 'wasted water'." (IID Brief 2/21/84, p. 26.) In reliance upon this position, the IID presented evidence intended to show that there have not been any shortages of water among diverters from the lower Colorado River in recent years. The water supply situation of Colorado River diverters and the subject of other beneficial uses to be made of conserved water are addressed in Section 11.0 below.

Although evaluation of the alternative uses to be made of conserved water is an important aspect of evaluating the reasonableness of the District's water usage, a finding of unreasonable use or method of use does not require the existence of a dispute between competing users. For example, excessive diversion or an unreasonable method of diversion of water to the detriment of instream fish and wildlife uses may be wasteful even if there are no objections from competing consumptive users. (*Environmental Defense Fund. v. East Bay Municipal Utility District, supra,* 200 Cal.3d at 200.) Similarly, if other parties demonstrate an intention to utilize water which could be conserved through reasonable conservation measures, the failure to undertake such conservation may be found to be unreasonable. The parties interested in utilizing the conserved water are not required to file a lawsuit or an administrative complaint in order for the Board to acknowledge that there are other beneficial uses to be made of water which can be conserved.

8.4.2 *Whether the Excess Water Now Serves a Reasonable and Beneficial Purpose.*

Although there may be means for increasing the efficiency of water use by a particular water user, the availability of excess water for other beneficial purposes may serve to mitigate what might otherwise be an unreasonable situation. For example, if virtually all of an irrigator's tailwater reenters the stream where it is available for downstream use, and if the diversion has no adverse effect on instream uses, then it may not be unreasonable to allow large quantities of tailwater. Similarly, if a water user's canal seepage contributes to the recharge of a groundwater basin, such seepage could be beneficial and considered reasonable in certain circumstances since underground storage of water for future use is recognized

as a beneficial use. (Water Code Section 1242.) A third possibility, as discussed in Section 12.0 below, is the availability or irrigation return flow for the enhancement of fish and wildlife resources which is recognized as a beneficial use of water under Water Code Section 1243.

8.4.3 *Probable Benefits of Water Savings*

The probable economic, environmental and other benefits that would result from more efficient use of water should be identified. These benefits may serve to offset a portion of the cost of more stringent water conservation policies.

8.4.4 *The Amount of Water Reasonably Required for Current Use*

Determining a reasonable duty of water or reasonable water use requirements can assist in providing a general indication of whether a water user is in compliance with the constitutional requirements of reasonable and beneficial use. In a large complex situation such as IID, however, cropping patterns may vary from year to year, leaching requirements vary with location, and other factors affecting water consumption may also vary considerably. In the absence of comprehensive data on all water demands within the IID, it is extremely difficult to estimate the total "reasonable" water requirements of the District. Nevertheless, the Board may evaluate the reasonableness of those aspects of IID's operations on which meaningful information is available.

8.4.5 *Amount and Reasonableness of the Cost of Saving Water*

The fact that water conservation may require the water user to incur additional expense provides no justification

to continue wasteful or unreasonable practices. In *People ex rel. State Water Resources Control Board v. Forni*, 54 Cal.App.3d 743, 126 Cal.Rptr. 851 (1976), the court ruled that water users may properly be required to "endure some inconvenience or to incur reasonable expenses" in order to comply with the constitutional standard of putting the water resources of the state to maximum beneficial use. The decision in the *Forni* case indicates that the Board may require a water user to build water reservoirs or make other physical improvements if that is the only feasible method of achieving the constitutional mandate of reasonableness. (54 Cal.App.3d at 751-752.)

The determination of whether the cost of a particular conservation measure is reasonable must be made with respect to the resources available for financing water conservation efforts as well as the value of the water which would be conserved. Where outside parties are willing to finance improvements in exchange for conserved water, the availability of financing from those parties should also be considered.

8.4.6 *Whether the Required Methods of Saving Water Are Conventional and Reasonable Rather Than Extraordinary*

Water Code Section 100.5, enacted in 1980, states:

> "It is hereby declared to be the established policy of this state that conformity of a use, method of use, or method of diversion of water with local custom shall not be solely determinative of its reasonableness, but shall be considered as one factor to be weighed in the determination of the reasonableness of the use, method of use, or method of diversion of water within the meaning of Section 2 of Article X of the California Constitution."

Although this statute confirms the traditional view that local custom should be considered in evaluating reasonableness of water use, it clarifies that conformity with local custom alone does not foreclose a finding of waste and unreasonable use in appropriate circumstances. The Board also recognizes that determining the local custom with which the operations of an irrigation district should be compared is difficult if no closely comparable districts exist. This is a problem with respect to the IID where irrigation return flow is not available for further consumptive use. In contrast, the return flow from most districts eventually reenters a natural stream system and is available for further use.

8.4.7 *A Physical Plan or Solution*

This factor is closely related to consideration of other potential uses of water to be saved, as discussed above in Section 8.4.1. In disputes between competing water users, courts have frequently considered whether there is a "physical solution" available by which the needs of both users can be met. (*Peabody v. Vallejo*, 2 Cal.2d 351, 383-384, 40 P.2d 486 (1935), *Waterford Irr. Dist. v. Turlock Irr. Dist.*, 50 Cal.App. 213, 194 Pac. 757 (1920), *People ex rel. State Water Resources Control Board v. Forni*, *supra*, 54 Cal.App.3d at 751-752.) If there is such a solution, then the constitutional goal of promoting maximum beneficial use of the State's waters will be served by adopting the "physical solution", provided other water users and instream uses are not adversely affected.

In the present case, there currently is no dispute between competing water right holders and, therefore, consideration of a "physical solution", as the term is normally used, is not required. However, there are impending shortages of water which are reasonably certain

to exist within the period in which a physical solution to avoid the shortages could be implemented (see Section 11.0). Therefore, it is proper to initiate steps immediately which will assist in alleviating the shortage.

9.0 WATER LOSSES WITHIN IMPERIAL IRRIGATION DISTRICT

9.1 *Summary of Estimates of Water Losses*

Approximately one million acre-feet per annum of irrigation return flow enter the Salton Sea from Imperial Irrigation District. (See Table 2 below.) Unlike return flows in most areas, this water is lost to further beneficial consumptive use. The four main sources of water loss within IID which were identified at the hearing are: tailwater, canal spills, canal seepage, and leachwater. The total quantity of loss attributable to all four sources can be determined fairly accurately by subtracting the flow in the New River and Alamo River as they enter IID from the flow in those rivers as they enter the Salton Sea. Adjustments must also be made for District lands which drain directly into the Salton Sea and for various other factors such as precipitation within the District.

Although there is general agreement on the quantity of total water losses within IID, there is considerable variation in the estimates of losses attributable to each of the four main sources described. The difficulty in determining the quantity of loss from each source is due to the lack of measurements of canal spills and tailwater and problems in accurately estimating losses due to canal seepage and leachwater.

The information presented in Table 2 below is based on studies submitted by the named parties which cover similar periods of time. The processes used to develop

each of the parties' estimates are described briefly in Sections 9.2 through 9.4 below. The various parties approached the process of accounting for water use within IID differently. In some instances, in order to present values for components of IID water use in a comparable form, the values in Table 2 below were derived from information submitted by the parties.

TABLE 2

ESTIMATED WATER LOSS FROM THE IMPERIAL IRRIGATION DISTRICT
(Acre-feet per annum)

	DWR, 1 & DWR, 17 1, pp. 13, 30, 41-43 17, pp. 7-11	ELMORE, 3 3, Table 4	IID, 16 16, Attachment 13
1. Period of Record	1975-1979	1976-1980	1977-1979
2. Inflow to IID-Drop 1	2,791,000	2,744,000[e]	2,757,000[h]
3. Operational Losses (including Canal Seepage)	253,000	97,000[f]	254,000
4. Canal Spill	53,000	58,000	135,000
5. Delivered to Users	2,537,000[a]	2,500,000[g]	2,368,000[i]
6. Crop Evapotranspiration	1,664,000	—	1,736,000
7. Leachwater	250,000[b]	309,000	281,000
8. Tailwater	380,000[c]	559,000	312,000
9. Excess Leach and Tailwater	190,000[d]	-0-	-0-
10. TOTAL — Leachwater + Tailwater (7 + 8 + 9)	820,000	868,000	593,000
11. TOTAL LOSS (3 + 4 + 10)	1,126,000	1,023,000	982,000
12. Loss As Percent of Inflow	40%	37%	36%

a. Assumed by DWR to include the 53,000 canal spills on Line 4.

b. Assumed by DWR that 15 percent crop ET is necessary for leaching.

c. Assumed value based on IID maximum allowable tailwater. Actual value includes some of quantity reported in Line 9.

d. Water loss which exceeds assumed leachwater and tailwater values. Quantity which must be allocated to each source of loss could not be determined.

e. Included by Board from IID, 3, p. 112 for comparison.

f. Includes canal seepage only.

g. Includes the 58,000 afa canal spills shown on Line 4.

h. Includes 34,000 afa seepage recovery.

i. Includes 39,000 afa delivered to non-farm users.

9.2 *Department of Water Resources Estimates*

The Department of Water Resources selected the years 1975 to 1979 as a representative period for studying recent operations of IID. The quantity of water delivered to IID via the All-American Canal at Drop 1 was determined from IID records. The 53,000 afa value reported for canal spills was estimated based upon a limited amount of data from one canal. This estimate was very close to the value of 2 percent of delivered water which was estimated by Robert Wilson of the IID Water Department. (DWR, 17, p. 10.) The Department of Water Resources estimated that canal spills could be reduced by approximately 50,000 afa. (DWR, 17, p. 11.)

The Department estimates of canal seepage, which are included in the value shown for operational losses in Table 2, were based upon information in the IID Annual Summary. (DWR, 17, 16-17.) The Department estimates that approximately 140,000 afa could be conserved through additional canal lining and seepage recovery lines. In addition, the Department estimates a potential savings of 70,000 afa from lining the All-American Canal.

(DWR 1, p. 56.) The water loss due to seepage in the All-American Canal is not reflected in Table 2 above.

The value for crop evapotranspiration (ET) reported in Table 2 above was calculated by subtracting the component of Salton Sea inflow derived from IID deliveries to farmers from the total value for IID deliveries to farmers. (DWR 1, p. 42.) The calculated value compared closely with DWR's revised estimate based on the empirical analysis. (DWR, 18, p. 6, Table 2.) The calculated value for ET reported in Table 2 equals about 66 percent of the water delivered to farmers.

The remaining 34 percent was assumed to consist of canal spills (2 percent) and tailwater plus leachwater (32 percent). Based on a review of available literature and consultation with local experts, the Department estimated that leachwater equals 15 percent of ET, which in this instance equals about 10 percent of deliveries to farmers.

The 380,000 afa reported in the table as tailwater is based on the assumption that tailwater equalled 15 percent since that is the maximum allowed under IID regulations. Based on estimates using IID data and estimates from Lee Hersmeir of the USDA Agricultural Research Station, however, the Department experts believe that tailwater is probably higher than 380,000 afa and may be as high as 558,000 afa. (DWR 17, pp. 8-11; DWR 1, p. 32.)

Assuming that tailwater equals 15 percent of deliveries, leachwater equals 10 percent of deliveries, canal spills equal 2 percent of deliveries, and ET equals 66 percent of deliveries, then the quantity of delivered water which is unaccounted for equals 7 percent of delivered water. This quantity of water is shown in Table 2 above as approximately 190,000 afa in the category of "Excess Leachwater

and Tailwater". Due to the limited data available, the Department did not attempt to determine how much of this water was due to tailwater and how much was due to leachwater. The Department concluded, however, that approximately 7 percent of delivered water could be conserved through reduction of excess tailwater losses and excess leachwater losses. (DWR, 17, p. 10.)

9.3 *Estimates Submitted by John Elmore*

The engineering firm of Krieger and Stewart examined the data available from DWR, IID and Hess Geotechnical Corporation in the preparation of their estimates of water loss prepared for Mr. Elmore. (Elmore, 3, p. 2.) Although they examined data for the period 1965-1980, their estimates for the period 1976-1980 were selected for use in Table 2 above because it more closely matched the period studied by DWR.

Losses of water from IID were estimated by reviewing the estimates of DWR, IID and the Bureau of Reclamation, and applying independent judgment where possible. The Krieger and Stewart canal seepage estimate is based upon DWR estimates and was adjusted in proportion to the increase in canal lining in later years. (Elmore, 3, p. 12.) Similarly, Krieger and Stewart modified the DWR estimate for canal spills (2 percent of delivered water) because it was assumed that the two regulatory reservoirs constructed in 1976 and 1977 resulted in a reduction of canal spills by 30,000 af in 1978. They assumed that canal spills approximated 3 percent of IID deliveries before 1977, 2½ percent during 1977, and 2 percent after 1977. They stated that this assumption was believed to be conservative. (Elmore, 3, p. 12.)

Krieger and Stewart estimated the composite leaching fraction for IID to be about 14 percent of net IID

delivered water after adjusting for the percentage of net irrigated area which is tiled for leachwater. This estimate was based upon information from several experts on local leaching requirements, the recommended leaching requirements published in the *IID 10-Year Report for 1977*, and the annual inventory of crop acreages published by IID in its *1982 Water Report*. (Elmore, 3, p. 13.)

The quantity of tailwater was calculated by subtracting from IID inflow to the Salton Sea, the previously derived values for rainfall runoff entering the Sea, canal spills, canal seepage and leachwater. For the period 1976 to 1980, tailwater was calculated to be an average of 559,000 afa, or about 22 percent of IID delivered water. (Elmore, 3, pp. 13, T-4, Table 4.)

9.4 *Estimates Submitted by Imperial Irrigation District*

Bookman-Edmonston Engineering, Inc., prepared a water balance for the Imperial Valley for the period 1977-1979 based on their review of IID records and information developed by the Department of Water Resources and other experts. (T, VIII, 154; IID, 16, Attachment 13.) Crop evapotranspiration was based upon records of crops grown, and the values for quantity of water used per acre as developed by DWR and Kaddah-Rhoades. The quantity of leachwater was estimated by comparing the quality of tile drainage water with that of the New and Alamo Rivers and the All-American Canal. (T, VIII, 157,23-158,12.) Tailwater was calculated as the closure item of the portion of the equation used in determining total IID inflow to the Salton Sea. (T, VIII, 158, 11-21.)

9.5 *Estimates Prepared by the United States Bureau of Reclamation*

The U.S. Bureau of Reclamation (USBR) conducted an investigation of water use within the Imperial Irrigation District to determine if there were feasible measures to recover drainage water being lost to the Salton Sea. Although some field measurements were made by the USBR staff and the IID staff in this cooperative venture, it was necessary to estimate some components of water loss. The estimates of water loss presented as evidence by the USBR are set forth in Table 1 on page 4 of USBR Exhibit 1. In cross-examination of the USBR witnesses, however, it was shown that a previous draft of the USBR report on water conservation within IID contained substantially different estimates of water losses attributable to various sources. (T, VI, 31,13-147,8; IID, 3, p. 9.) Portions of earlier USBR draft reports and related documents were presented as evidence to demonstrate the differences. (Elmore, 8 to 20.) Since there was no satisfactory resolution of the different values reflected in the various USBR documents, the Board was not able to rely upon the estimates stated in USBR Exhibit 1 in comparing water loss estimates within Imperial Irrigation District.

9.6 *Conclusions Regarding Water Losses Within IID*

The estimates of water loss shown in Table 2 above are based on periods of time when the inflow to IID at Drop No. 1 was approximately the same. Although the parties differed on the quantity of losses estimated for various components, their estimates of total water loss as a percentage of inflow at Drop No. 1 are relatively close, between 36 and 40 percent. The numbers stated in Table 2 provide a general guide to the likely range of values for water losses due to particular factors in IID. In view of

the previously noted limitations in available data, the Board will not attempt at this time to refine the numbers further in order to drive its own water balance for the Imperial Valley.

As discussed in Section 10.0 below, there is considerable evidence that various components of the water loss within IID could be reduced through reasonable conservation measures. The lack of reliable information on the sources of water loss within IID, however, impedes the development of a comprehensive water conservation plan. In view of the maximum beneficial use requirement of Article X, Section 2 of the California Constitution, the Board concludes that the right to make use of a large quantity of water carries with it the responsibility to account for its use accurately. Therefore, the IID should develop reliable procedures for determining the disposition of all water imported by the District with an emphasis on (1) an accurate accounting of farm deliveries, (2) measurements of canal spills, (3) measurement of tailwater, and (4) either measurement or computation of leachwater and canal seepage. Since the components of total IID water losses will vary from year to year based on cropping patterns, total acreage under irrigation, and other factors, the District's water accounting procedure should be capable of normalizing the data in order to make the information comparable from year to year.

10.0 IRRIGATION PRACTICES AND OPPORTUNITIES FOR WATER CONSERVATION

The allegations in the complaint filed by John Elmore relate to water losses due to canal spills and excess tailwater. The Elmore allegations are addressed in Sections 10.1 to 10.5 below. In addition to information regarding the specific allegations of the Elmore complaint,

evidence was also presented on related aspects of IID water management practices and on other opportunities for water conservation. These subjects are addressed in Sections 10.6 through 10.8.

10.1 *Maintaining Canals in "Overly Full Conditions"*

The first allegation of the Elmore complaint states that in order to provide quick delivery service of irrigation water, canals are kept overly full to such an extent that overflow gates at the terminal ends of the canals frequently spill over into drains where the water is not subject to reuse.

There was testimony that maintaining a high water level assists in maintaining an accurate measurement and delivery to the farmer's headgate. If a high water level is maintained, fluctuations in canal flow have less effect on the rate of delivery than if the water level is low. Maintaining a uniform headgate delivery allows for a more efficient distribution of water throughout the field. (T, VII, 90,18-92,14.) No evidence was submitted to refute the need for maintaining a constant headgate delivery.

The problem of canal spills is increased if farmers reject part of their order as allowed by the 21-Point Program. Under this program a farmer may cut back his order by two cubic feet per second (cfs) if the system can accommodate the request. Also, a farmer may reject up to 50 percent or five cfs of his order, whichever is less, during the last 12 hours of a run. Although the rejected water is paid for by the farmer, it remains in the canals and may contribute to the canal spills. (T, IV, 36, 13-18; 21-Point Program items 1, m, n, p.) No record is kept of the amount of water rejected by the farmers and therefore the extent of the problem this creates cannot be fully determined.

In addition to the unintentional spills, there are also operational spills which occur when canals are dewatered every four to eight weeks in order to control aquatic weeds. There was evidence submitted, however, that canals are spilling approximately 77 percent of the time. (T, V, 68, 20; SSPO, 16.) Therefore, it is reasonable to conclude that a large portion of canal spill losses are unintentional.

Since water spilled from the canals is lost without any beneficial consumptive use having been made, steps should be taken to improve the IID system so that operational flexibility can be provided without relying upon the storage capacity of the delivery canals. The regulatory reservoir program discussed below provides one means of increasing this flexibility.

10.2 *Absence of Regulatory Reservoirs*

The second allegation of the Elmore complaint states that the absence of regulatory reservoirs causes unnecessary delivery of excess amounts of water producing spillovers and runoff into the Salton Sea.

The IID has constructed four regulatory reservoirs to date and pledged to construct one a year until a total of 20 to 22 reservoirs are in operation. (IID, 10D.) Although the charge for water delivered by IID includes an assessment to generate the revenue for construction of reservoirs, reservoir construction was stopped because of economic problems. (T, VII, 87, 14-26.)

Regulatory reservoirs would help to reduce canal spills by creating needed storage to allow a greater flexibility for the District's water delivery practices and for the farmer in ordering water. (T, I, 50,51-51,06; T, III, 92 04-09; T, VII, 87, 14-26.). The U.S. Bureau of Reclamation report presented by Robert McCullough states that large

regulatory reservoirs and spill-interceptor systems also would produce a high degree of certainty on the increment of water that could be conserved. (T, V, 196, 24-26; USBR, 1, Table 6.)

The record indicates that Imperial Irrigation District and most other parties support the use of regulatory reservoirs. The District stated that the cost of the reservoirs and the difficulty of locating and obtaining the necessary reservoir sites have been the major obstacles to continuation of the reservoir construction program. (T, VII, 87, 14-26.)

Although testimony indicates that the regulatory reservoir program has been suspended, there was no evidence that the water conservation assessment included in the charge for water has been discontinued. If the revenue generated is to be used for the purposes for which it is collected, then the District will continue to have funds available for water conservation measures. The acknowledged benefits of the regulatory reservoirs support the conclusion that the reservoir construction program should be resumed.

10.3 *Excess Delivery of Water to Farmers' Headgates*

John Elmore's third allegation states that water should not be delivered in an amount greater than that actually needed by the farmer, and that provisions should be made to divert water to other users when farmers miscalculate the amounts of water they actually need.

The District has no precise way of determining whether farmers' orders are reasonable or excessive. Therefore, the District provides all the water ordered. There was testimony that one-third to one-half of IID deliveries average 0.2 cfs more than was actually ordered. (T, I, 92, 7-16.) This results in excessive tailwater and/or rejected

water at the headgate causing excessive water in the canals. (DWR 1, 25.)

The least expensive way to control wastewater is through careful ordering and proper application of water at the head end of the field. (T, I, 130, 16-19; T, VI, 14,11 - 15,02.) While there are many problems in ordering the right amount of water, the testimony indicates that the biggest problem is the "human factor". (T, VIII, 95, 06-07.) This highlights the need for a good educational program for water users. (See Section 10.8.)

10.4 *Absence of Tailwater Recovery Systems*

The fourth allegation of the Elmore complaint states that tailwater runoff which is currently draining directly into the sea could be captured by a recovery system and reused.

The volumes of tailwater runoff submitted in the water balance studies as listed in Table 2 range from 312,000 afa to 559,000 afa. As a percentage of delivered water, these quantities range from 13 percent to 22 percent. The IID's 21-Point Program specifies that 15 percent of the farmer's running order is the maximum tailwater that is allowed without penalty. Dr. Malek Kaddah testified that no one could defend tailwater and that even 10 percent was too high. (T, VII, 32, 17-18.) However, on cross-examination, Dr. Kaddah indicated that 10-percent tailwater would be a realistic goal within the IID. (T, VII, 69, 7-26.)

The use of tailwater recovery systems to control excess runoff is not a widely used method within the District. John Elmore testified that he uses portable tailwater recovery systems and estimates the cost to be about $9 per acre-foot. (T, I, 112, 23; T, I, 114, 07.) Steven Elmore has used a tailwater recovery system for six or seven

years but only for the germination of crops. (T, I, 98, 12-13.) During the remainder of the season his tailwater normally is within the authorized limits. He testified that he would recommend a recovery system any time there would be enough runoff that a triple charge could be assessed under the District regulations.

Jewel Meyer, of the University of California at Riverside, testified that while tailwater recovery systems are very effective, they are also expensive. The use of a recovery system can also cause increased crop scalding problems during hot periods of the year. (T, III, 80, 10-18; T, III, 75, 1-3.) Mr. Meyer also testified that excessive runoff can be reduced by a change in the IID's policies to allow for a more flexible delivery of water and by improved on-farm irrigation techniques. (T, III, 90, 11-14.)

John Kubler, who was recognized by other witnesses as an efficient irrigator, stated that farmers could approach the savings in runoff realized by a recovery system if their fields were leveled and they used better water management practices. In those areas where it was not economically feasible to level the fields, some method such as a recovery system may be required. (T, VI, 23, 01-23.) Mr. Kubler also testified that limiting tailwater also requires flexibility in water delivery by the IID to allow adjustments by the farmers. (T, VI, 24, 05-25.)

There was testimony that a recovery system created a savings by returning fertilizers to the field that were lost through excessive runoff. (T, I, 99, 02-03.) However, there are also added costs such as added insurance, vandalism, and theft. (T, VI, 7, 12-15.) It also was suggested that by pumping tailwater back to the head of the field, localized areas of weeds and nematodes may be spread throughout the field. (T, VII, 7, 04-11.) There was expert testimony that reuse of tailwater does not present a problem due to

increased salinity. (T, VII, 68, 09; T, VI, 6, 21-26.) There was also expert testimony, however, that the salinity increase in tailwater is a problem which should be examined. (T, VI, 205, 12.)

The record indicates there is excess tailwater that could be conserved. The use of a tailwater recovery system in some situations would be useful, while better on-farm water management practices would help in almost all cases. It was not adequately demonstrated that use of tailwater recovery systems should be required by the Imperial Irrigation District. If sufficient water can be conserved by better water ordering and other on-farm practices, this would be a more cost-effective method.

10.5 *Requirements That Farmers Order Water in 24-Hour Delivery Intervals*

The final allegation of the Elmore complaint states that the delivery of water cannot reasonably be terminated after the farmer receives sufficient amounts of water and the excess from the delivery drains unused into the sea. Mr. Elmore alleges that other potential water users are not contacted to use excess water, and miscalculation in estimating the amount of water needed by a farmer results in significant waste.

There was testimony that the requirement that water must be ordered in multiples of 24-hours means farmers tend to over order. Because of these excessive orders and because the canals are kept full, rejection of water due to over ordering causes excessive canal spills. (T, V, 29,16-30,01.)

Sequential water delivery was cited as a method used in some areas, but one expert testified that it would not be workable in the Imperial Valley. (T, III, 75, 04-21.) He also testified that most of the districts on sequential

irrigation are beginning to head toward a 24-hour or 36-hour demand system. While a demand system is more difficult for an irrigation district to manage, it has advantages for the growers. (T, III, 75, 22-26.) There was also testimony identifying the problems which could arise if a sequential delivery system resulted in farmers receiving their initial delivery of water at night. (T, VII, 100, 09-23.)

There was not sufficient evidence presented at the hearing from which the Board can determine that any particular change in the District's water delivery policy is feasible and should be implemented at this time. Water conservation which could be achieved through changes in delivery scheduling, however, presumably would not involve a large capital construction outlay. Therefore, the District should carefully examine the possibility of implementing changes in the existing water delivery policy.

10.6 *Enforcement of Tailwater Restrictions*

In addition to evidence on the specific allegations of the Elmore complaint, evidence was presented on the importance of enforcing tailwater restrictions. Due to the relatively low cost of water within the IID, there is little incentive for many farmers to reduce tailwater. (T, V, 37, 12-18; T, V, 76, 9-14; Elmore, 8, p. 2; Elmore, 12, p. 11.) Therefore, reduction of tailwater losses depends to a large extent on effective enforcement of tailwater restrictions. However, several problems with the existing tailwater monitoring program were identified.

The first problem with the IID tailwater enforcement program, as reflected in District records for 1977-1981, is that only about 20 percent of the fields receiving water were checked for excessive tailwater. (Elmore, 3, p. 16.) A memo dated July 1, 1983, from Robert Wilson to the

IID irrigation superintendents and the watermaster directs that the zanjeros are now to check tailwater from all fields receiving headgate deliveries. (T, IV, 7,19 - 9,22). Some questions were raised regarding the possibility of carrying out this directive with the existing workforce. (T, IV, 23,9 - 27,25.) Unfortunately, no records were introduced showing the extent to which the announced policy has been implemented in recent months.

A second problem with the existing 13-Point Program is that no assessment is levied for excess tailwater unless discharges equal 15 percent or more of the water being delivered on two successive occasions at least 9 hours apart in a 24-hour period. (IID, 10D, p. 2.) Although there was evidence indicating that a single measurement should not serve as the basis for an excess tailwater assessment (T, VII, 11,18 - 12,12), the existing requirement that there be 9 hours between measurements appears to have the effect of impeding rather than promoting effecting enforcement. (T, I, 60,20 - 61,1; T, I, 63,20 - 64,25.)

The third problem with present tailwater enforcement efforts is that the poor condition of tailwater structures and approach channels makes accurate tailwater measurement difficult. It is also difficult for a farmer to control tailwater if he lacks a convenient way of determining if tailwater exceeds allowable limits. The importance of maintaining tailwater structures is acknowledged by the second point of the 13-Point Program which provides for "reconstruction of farm outlet boxes as required". Robert Wilson testified that the District made a one-time effort to repair tailwater structures in 1976, but since that time maintenance of the boxes has been left to the individual farmers. (T, IV, 10,22 - 11,8.) A recent sampling of 82 tailwater structures selected at random showed that ap-

proximately 40 percent were damaged or sub-standard and should be replaced. In addition, approximately 65 percent of the approach channels were silted or filled with trash and weeds. (Elmore, 3, pp. 13-14; T, I, 75, 3-7.)

A fourth problem with the District's efforts to control tailwater is that the sanctions seem to be ineffective in reducing tailwater even when a violator is caught. U.S. Bureau of Reclamation documents were presented which indicate that the triple charges assessed for tailwater violations are unlikely to promote substantial water conservation. (Elmore, 8, p. 8; T, I, 87,16 - 89,9.) Records of the IID Water Conservation Advisory Board also indicate that the present tailwater monitoring program has not altered the behavior of so-called "chronic wasters". (Elmore, 22, p. 1.) This evidence supports the conclusion that extensive tailwater monitoring and increasing the sanctions levied against those having repeated tailwater violations are necessary if enforcement of tailwater limitations is to be effective.

The estimates of tailwater discharge set forth in Table 2 range from 312,000 afa to 559,000 afa. Even the smallest of these estimates is a large quantity of water. The evidence presented indicates that the District's present tailwater enforcement program has been ineffective and that it could be significantly improved as discussed above. Effective implementation of the District's announced policy requires, at a minimum, that tailwater structures be repaired and maintained, and that the District monitor all deliveries for excess tailwater as it contends it is now doing.

10.7 *Irrigation Education Program*

There was testimony from two farmers in the District that the least expensive way to control tailwater was by

reducing the flow of water into the furrows at the head end of the field. (T, I, 130, 16; T, III, 81, 8.) However, a common practice is for farmers to order more water than needed to be sure of receiving enough to irrigate the entire field. This tendency to over order results in excess tailwater runoff. (T, VII, 97, 20-25.)

Virtually all of the evidence received indicates that an improved program of educating farmers and irrigators in better irrigation practices would have beneficial results. Engineer William Gookin testified that an educational water management program is needed and that it could be achieved with a small expenditure of funds. (T, V, 32, 23-26.) Such a program could reduce excess water orders without structural or capital costs. (T, V, 108,19 - 109,7.)

A representative of the IID Water Conservation Advisory Board, John Kubler, testified to what he considered to be four basic principles of good water management. First, the field must be graded for maximum uniformity of water distribution. Second, all structures related to delivery of water must be in good repair. Third, the water user, his foreman and the irrigators must understand the principles of good water management and the reasons for water conservation. The irrigators must be trained and closely supervised. Fourth, the farmer must order the right amount of water. (T, VI, 14,10 - 15,3.) The success which Mr. Kubler has had in reducing tailwater without use of a tailwater recovery system indicates what can be achieved by proper water management. (T, VII, 51,21 - 52,14.)

The potential for reducing tailwater by irrigation scheduling the other on-farm management techniques is also demonstrated by the results of a U. S. Bureau of Reclamation study involving approximately 38 farmers. At the outset of the study average tailwater runoff was

estimated to range between 20 and 25 percent of delivered water. After implementing USBR suggestions and participating in the study for over a year, participating farmers were able to reduce tailwater to an average of 14 percent. (Elmore, 17, p. 28; T, VI, 65, 08-13.)

Imperial Irrigation District has taken some preliminary steps which indicate a growing recognition of the value of educating irrigators in improved on-farm management techniques. The District has hired a Supervisor of Water Conservation who works with farmers in developing water conservation plans, conducts irrigation scheduling and assistance programs, and works directly with irrigators in the field. (T, VI, 202,11-205,24.) In view of the extensive evidence regarding the effectiveness of improved on-farm management techniques in reducing tailwater and in view of the relatively low cost to the District, it is reasonable to expect the District to expand its present irrigation education program significantly.

10.8 *Other Water Conservation Opportunities*

The items discussed in Sections 10.1 through 10.7 relate primarily to reduction of water losses due to tailwater and canal spills. The two other large sources of water loss identified in the DWR Report of Investigation (DWR 1) and at the hearing were canal seepage and leachwater.

10.8.1 *Lining Main Canals and Lateral Canals*

The estimates of net seepage from main canals and lateral canals range from a low of 97,000 afa by the consultants for John Elmore to a high of 200,000 afa by the Department of Water Resources. (Elmore, 3, Table 4; DWR, p. 37.) The District has been involved in a canal lining program since the early 1960s in cooperation with

local farmers. (IID, 4, p. 13.) The program has been criticized, however, because the priority for lining canals is established by those farmers who are willing to participate rather than by the District on the basis of seepage losses. (T, I, 61, 15-20.) The relatively high cost of canal lining appears to be the main reason that the program has not been accelerated.

The Department of Water Resources estimates that the cost per acre-foot of water conserved by canal lining was $31 at 1981 prices, or roughly double the cost of recovering an acre-foot of tailwater. (DWR, 1, p. 59.)[7] One advantage of canal lining, however, is that the potential water savings can be determined with a relatively high degree of certainty. Canal lining also reduces the cost of weed control and canal maintenance. (DWR, 1, p. 36.) Therefore, an expanded canal lining program may be a likely candidate for financing by an outside party in exchange for conserved water. There was insufficient evidence, however, for the Board to conclude that the IID should be directed to change its present canal lining program at this time.

10.8.2 *Lining the All-American Canal*

The Department of Water Resources also identified seepage losses from the All-American Canal as a potential target for water conservation. The Department estimated that relocating and lining the All-American Canal would result in water savings of 70,000 afa at an estimated cost of $115 per acre-foot. (DWR, 1, pp. 55, 59.) As in the case

[7]This estimate and other cost estimates in DWR Exhibit 1 are from a variety of sources and may not be based upon a common price index. The estimates are referred to in this decision to provide an indication of the relative expense of the suggested conservation measures.

of lining main and lateral canals, the potential water savings could be determined with a high degree of certainty. However, the District could not reasonably be expected to finance the lining of the All-American Canal under present conditions unless outside funding were available.

10.8.3 *Reduction of Leachwater*

The Department of Water Resources was not able to arrive at firm estimates for leachwater. However, the Department concluded that if the quantity of water used for leaching were substantially over 15 percent of ET, there would be an opportunity of reducing leachwater by as much as 178,000 afa. (DWR, 1, p. 49.) There was substantial evidence at the hearing, however, that leaching requirements in the Imperial Valley are unusually high and that they vary substantially according to local soil conditions. Although use of excessive leachwater should be avoided, there was insufficient evidence to establish that excessive leachwater is a widespread problem requiring corrective action at this time.

10.8.4 *System Automation and Other Improvements*

Some of the technical reports entered into the record discuss the potential for water conservation through system automation and other improvements not discussed in preceding sections. Some of these measures hold sufficient promise to justify further study, but there is insufficient evidence for the Board to require immediate implementation.

11.0 BENEFICIAL USES FOR CONSERVED WATER

An important consideration in evaluating what conservation measures should be pursued, and at what rate, is the existence of other beneficial uses of water which could

be conserved. As discussed below, the evidence indicates that there are beneficial uses to be made of water conserved by IID and that in the near future there are likely to be substantial water shortages among California users of Colorado River water.

11.1 *Use for Irrigation Within Imperial Irrigation District*

Under the Supreme Court's decision in *Arizona v. California*, 439 U.S. 419, 429 (1979), Imperial Irrigation District has a present perfected right to divert a maximum of 2,600,000 afa at Imperial Dam. (See Section 7.4.) In accordance with its contract with the Secretary of the Interior, the District has been diverting approximately 2,900,000 afa. After the Central Arizona Project comes on line in 1985 or 1986, the District may have to conserve water to maintain its present irrigated acreage. (IID, 2, p. 15.) The quantity of water which must be conserved will depend on the rate of development of the Central Arizona Project, the water usage of other parties to the Seven-Party Agreement and future salinity of Colorado River water. There is also a potential to increase the irrigated acreage by developing the West Mesa, but much of this area is in federal ownership which prevents full development. (CRB, 1, p. 19.)

11.2 *Coachella Valley Water District*

The 1934 agreement between the IID and CVWD restricts the sale of any conserved water outside of IID if landowners within the CVWD need such water for reasonable irrigation purposes or for potable uses. (IID, 2, p. 14.) The CVWD has stated that it can beneficially use any salvaged water not used by the IID. (DWR, 1, Section V, p. 51.) A water conservation program that involves a third

party would be subject to the 1934 agreement between the CVWD and IID.

11.3 *Metropolitan Water District*

The Metropolitan Water District has an existing contractual right to 1,212,000 afa from the Colorado River, subject to the prior rights of other users. MWD has been diverting about 800,000 afa in recent years. In some years, however, MWD has taken its full contractual entitlement of 1,212,000 af. Of the 4.4 mafa adjudicated to California by the U.S. Supreme Court, MWD holds a right to 550,000 afa in a fourth priority among California water users. Thus MWD could face a 662,000 afa reduction from its current entitlement when the Central Arizona Project reaches full development. (T, IV, 86, 15-18; T, IV, 102, 14-16; CRB, 1, Table 2.) The water available to MWD will be reduced further by prior rights of Indians and present perfected right holders that were not a party to the Seven-Party Agreement. The full extent of the reduction depends on the outcome of pending litigation. (CRB, 1, pp. 11, 12.)

The above figures show that there will be a definite need for additional sources of water within the MWD in the near future. The statement by the MWD representative at the hearing confirms that MWD would be interested in utilizing water conserved in the Imperial Valley if IID determines that such a transfer is in its interest. (T, IV, 136; MWD brief, 1.)

11.4 *Groundwater Storage*

There are three major groundwater basins where Colorado River water could be used for recharge, or to replace state project water that could be used for recharge. These are the San Fernando, Chino and Coachella Valley

Groundwater Basins. The San Fernando Basin has a capacity of 1,500,000 af. The Chino Basin also has a capacity of 1,500,000 af and there is some groundwater storage occurring there presently. The use of Colorado River water by the MWD allows use of state project water for groundwater recharge in the Chino Basin. (T, VIII, 108,10 - 109,20.)

The Coachella Valley is presently overdrafted by 600,000 af. The contractual arrangements which have made it possible to recharge the groundwater basin in Coachella Valley provide an example of how a transfer/groundwater storage program might operate in other areas. (EDF, 3, p. 59.) In this example, a portion of the entitlements of the Coachella Valley Water District and the Desert Water District to State Water Project water are received by MWD. In exchange, the two districts take annual delivery of like amounts of MWD's Colorado River water entitlements. This water is diverted from the MWD Colorado River Aqueduct for recharging the Coachella Valley Groundwater Basin. MWD can provide "excess" quantities of Colorado River Water for groundwater recharge which are credited to its account. In time of water shortage, MWD can decrease its delivery of Colorado River water to the groundwater basin to the extent it has "credit" in previously stored groundwater, and use the Colorado River water within its own area.

11.5 *Development of Geothermal Power*

The Imperial Valley has one of the largest potential geothermal resources in the State. The U. S. Geological Survey delineated six "Known Geothermal Resources Areas" in the valley as part of a program authorized by the Geothermal Leasing Act of 1970. Leasing of federal lands began in 1974 and there are approximately 23

companies presently engaged in some facet of geothermal exploration in Imperial County. (Board, 12, 58-59; T, VIII, 90, 03-04.)

An indication of the amount of water required for operation of a geothermal plant was provided by Mr. Deter of the California Energy Commission who stated that 50 to 100 af of water is needed for cooling purposes for each megawatt year of electricity. Mr. Deter estimated that geothermal development could require between 90,000 and 180,000 afa by the year 2002. (T, II, 16, 17-20.)

These figures indicate that if there is to be any significant development of geothermal power in Imperial County, a large supply of freshwater will be necessary. Use of water from the Salton Sea would require expensive pretreatment that would add substantially to the costs. (T, II, 17, 06-09.) Therefore, conservation of existing supplies of freshwater provides the best source of water for local geothermal development.

11.6 *Economic Feasibility of Water Transfer*

Preliminary investigations by both the Environmental Defense Fund and the Bureau of Reclamation demonstrate the potential economic benefits to IID resulting from water conservation and transfer of water by IID to other users. (Elmore 8, p. 4; EDF, 3, p. 55.) The EDF analysis shows it would be economically feasible for MWD to participate in financing water conservation measures, if the conserved water were made available for use within the MWD. The EDF analysis also concludes that it would be in the economic interest of IID to participate in a water transfer arrangement with MWD, even after adjusting for the loss of hydroelectric generation which would result from reduced flow in the IID system. (EDF,

3, p. 55.) The Bureau of Reclamation study of water conservation opportunities in IID makes a preliminary estimate that the benefit cost ratio of a transfer of conserved water to MWD is 4.41 to 1. (Elmore, 8, p. 4.) With the reduction in the water supply available to MWD from the Colorado River, sufficient capacity would be available in the Colorado River Aqueduct to handle any transfers from IID. A transfer of conserved water could partially satisfy future Southern California needs. (EDF, 3, p. 53; DWR, 1, p. 51.)

12.0 EFFECTS OF IID INFLOW ON THE SALTON SEA

12.1 *Description and History of the Salton Sea*

The Salton Sea is located at the bottom of a closed basin. Normal precipitation in the basin does not exceed evaporation so the continued existence of the Sea is dependent on the drainage from irrigation water imported from the Colorado River. The Sea has risen gradually since about 1920 in response to the increase in irrigation drainage from the Imperial and Coachella Valleys and Mexico. (Board, 12, pp. 11-12.) At various times in geologic history, the site of the present Salton Sea has been covered with water. As the water evaporated, salts accumulated in the soil which was the former lake bed. These salts were redissolved as the existing Salton Sea formed. Additional salts are brought into the Sea by the irrigation drainage water.

12.2 *Water Level of the Salton Sea*

The maximum annual level of the Salton Sea reached about −231 feet for several years during the period 1968-1971, but increased to a higher level each year during the years 1972-1981. (Elmore, 3, Tables 1 and 3;

IID, 16, Attachments 18 and 19.) During this period, it reached a maximum level of about −226.2 feet. (IID, 16, Attachment 16.) Examination of an area-capacity chart of the Salton Sea Basin shows that the rise of 4.8 feet in the annual maximum level flooded approximately 15,750 acres of adjoining private and public land. (Board, 12, Fig. 1.) The evidence received by the Board variously attributes the rapid increase in Sea level to drainage from IID (Elmore, 1, p. 3), a series of tropical storms (IID, 7, p. 2; CVWD, 2, p. 5), and an increase in the drainage from Mexico (CVWD, 2, p. 7). The average annual contribution of IID to Salton Sea inflow for the period 1965 to 1980 was about 71 percent. During the period 1972 to 1982, however, the average annual contribution by IID increased to 78 percent of total Salton Sea Inflow. (Elmore, 3, Table 3.)

Mr. Robert Wilson of Imperial Irrigation District testified that the slight decline in the water level of the Salton Sea during 1982 is one indication of the effectiveness of the District's current water conservation program. (T, IV, 21, 14-26.) However, more recent information from the United States Geological Survey shows that the water level of the Salton Sea in February of 1984 was the highest level recorded for February in approximately 70 years. (Records of USGS Field Station at Santee, Westmoreland Gage.)[8] The Department of Water Resources reports that precipitation in the Colorado Desert Region for the period October 1, 1983, through April 30, 1984, averaged 70 percent of normal. (Department of Water Resources, California Cooperative Snow Surveys Bulletin 120-84, "Water Conditions in California", May 1,

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[8]The Board takes official notice of this information under California Administrative Code, Title 23, Section 733(e) and Evidence Code Section 452.

1984.)[9] Therefore, it is questionable whether the continuing increases of the Salton Sea water level in recent months can be attributed to precipitation. It is apparent that the water conservation measures of the District have not been sufficient to control the rising elevation of the Salton Sea.

The rise in the level of the Salton Sea threatened to flood land farmed by the Elmore family and it was necessary for them to construct dikes around certain fields. (T, I, 95, 7; T, I, 108, 12.) As the Sea level increased, it became necessary to pump irrigation drainage water since the agricultural land was at a lower elevation than the surface level of the Sea. (T, I, 101,18 - 102,21.)

Although Imperial Irrigation District holds flooding easements over much of the property flooded by the Salton Sea, the flooding has resulted in significant damage and lawsuits against the District. (T, V, 69, 1-26; IID Brief, 9/27/83, p. 19.) There are numerous legal issues involved in these lawsuits including the validity of the easements, charges of negligence and the extent of damages. Resolution of these issues is not within the jurisdiction of the Board. The fact that productive property has been flooded, however, is a factor to be considered in evaluating the reasonableness of Imperial Irrigation District's use of water.

12.3 *Salinity of the Salton Sea*

The salinity of the Salton Sea increased from about 32,500 ppm in 1954 to about 39,000 ppm in 1975, causing concern for the fish life which supports a major recreation

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[9]The Board takes official notice of this information. (See Footnote 8.)

fishery. Reproduction of the fish is expected to fail at salinity levels above 40,000 ppm. (T, IV, 175, 20.) The adult fish would be adversely affected at salinity levels above 50,000 ppm. (T, IV, 176, 6.) Between 1975 and 1980, the salinity of the Sea decreased to about 38,000 ppm due to the large inflow of fresh water. However, as an indication of how rapidly changes can occur, the year-end Sea surface elevation decreased by only 0.3 foot between 1980 and 1982, but the salinity increased to about 39,000 ppm. (IID, 16, Attachment 18.)

12.4 *Effects of Reducing Inflows to the Salton Sea*

Since IID contributes approximately 70 percent of the inflow to the Salton Sea, it is clear that irrigation drainage from IID will be a major factor governing the future level and salinity of the Sea. The IID Board of Directors has announced a commitment in Resolution No. 8-84 to conserve 100,000 afa by July 1, 1985. (IID, Brief 2/1/84, Exhibit 1.) It has also recognized that it may be possible to conserve up to 400,000 afa. (IID, Brief 2/21/84, p. 19.) A long-term reduction of 100,000 to 400,000 afa in the IID contribution to Salton Sea inflow would have a significant effect on both the surface level and the salinity of the Sea.

Various other parties presented estimates of the water level and salinity of the Salton Sea under certain conditions of reduced inflow. The estimates differ because of differences in assumed conditions. Review of the Salton Sea Operation Studies prepared for IID provides a general indication of the impact of reducing IID drainage to the Salton Sea. (IID, 16, Attachment 23, Sheet 12.) The

following table contains a summary of three of these studies:

TABLE 3

ESTIMATED EFFECTS OF REDUCED INFLOW TO SALTON SEA

Assumed Condition	Estimated Elevation as of 12/82 (Sea Level — feet)	Elevation Difference from Historic (Feet)	Estimated Salinity as of 12/82 (PPT)	Salinity Difference from Historic (PPT)
1. Historic Inflow	−227.55	—	39.8	—
2. Historic Inflow less 100,000 afa since 1975	−230.21	−2.26	43.3	+3.5
3. Historic Inflow less 200,000 afa since 1975	−232.95	−5.40	47.5	+7.7

It is difficult to predict accurately the level of inflow to the Salton Sea in the near future. The results from the studies shown above, however, demonstrate that the water level and salinity of the Salton Sea are sensitive to changes in the rate of inflow of the magnitude likely to result from expected water conservation measures. If other factors remain relatively constant, a long-term reduction in the average rate of IID inflow by about 100,000 afa would eventually stabilize the water level at or near the −227.55 level existing in December 1982. A more substantial long-term reduction of IID inflow would result in eventual stabilization of the Salton Sea at a lower level.

The beneficial effects of a moderate reduction in the current water level include alleviating flooding of private property, increasing land available for wetlands habitat (CWA, 1), and exposing presently submerged land for geothermal energy development. (T, VIII, 89,5 - 90-10.) These changes would in turn be expected to reduce IID's

expenses from pumping irrigation drainage water (Elmore, 4, p. 17); to increase IID's revenue from the leases of District land for potential geothermal development (T, VIII, 90,11 - 92,23); and, possibly, to assist the District in resolving or avoiding lawsuits from property owners adjoining the Salton Sea whose land has been flooded.

It is impossible to predict when the salinity will adversely affect the fishery either with or without a planned reduction in IID inflow. However, the rapid rise in salinity between 1980 and 1982 shows that salinity could exceed 40,000 ppm, the danger level for fish reproduction, in less than five years whether or not a planned reduction in inflow takes place. Therefore, it is apparent that a prolonged delay in water conservation measures would not save the fishery for an appreciable length of time.

13.0 REVIEW OF IID WATER CONSERVATION MEASURES

13.1 *13-Point Program and 21-Point Program*

The measures taken by Imperial Irrigation District to promote water conservation are described in the "Report on Water Conservation" prepared by Bookman-Edmonston Engineering, Inc. (IID, 4.) Although the District pursued certain measures to conserve water prior to 1976, the District's first formal water conservation program was initiated in July 1976 by IID Board Resolution 45-76 which established the 13-Point Program. The provisions of the 13-Point Program were supplemented and clarified by the adoption of the 21-Point Program in 1980. The specific provisions of each program are set forth or summarized in several of the exhibits. (IID, 10D, pp. 2-7; IID, 4, pp. 6-13; DWR, 1, pp. 103-105.) The District acknowledges that the 21-Point Program "does not generally expand upon the water conservation measures set forth in

the 13-point program but rather, defines policies . . . for administering and enforcing the 13-point program." (IID, 4, pp. 12, 13.)

Although several aspects of the 13- and 21-Point Programs are directed at conserving water, the programs do not establish a comprehensive water conservation plan nor do they establish a schedule for implementing specific water conservation measures. In addition, the evidence indicates that certain aspects of the programs have not been carried out on a regular basis or are not being carried out currently. For example, item 2 of the 13-Point Program calls for "reconstruction of farm outlet boxes, as required". In addition, IID Exhibit 4 refers to the "present program" of the District as including "[c]ontinuance of a program to reconstruct or install farm delivery boxes of standard design to provide accurate measurement and control of water deliveries. . . ." (IID, 4, pp. 13, 14.) As discussed in Section 10.6, however, the testimony indicates that there was a one-time effort to repair tailwater structures in 1976, but that approximately 40 percent of the structures checked in a recent sampling were in need of repair or replacement. Similarly, item 4 of the 13-Point Program calls for "[d]aily inventory of surface field discharge. . . ." This appears to imply checking all deliveries for excess tailwater, yet, as discussed in Section 10.6, IID records for 1977-1981 indicate that only about 20 percent of the fields receiving water were checked for excessive tailwater. (Elmore, 3, p. 16.)

13.2 *IID Response to DWR Request to Prepare a Water Conservation Plan*

Following the conclusion of its investigation, the Department of Water Resources determined that there was

water being wasted within Imperial Irrigation District which could be saved for beneficial purposes by use of widely accepted practices. In a letter dated December 1, 1981, the Department requested the District to prepare a water conservation plan which was to include specific elements, sources of funds, a schedule for implementation, and additional specified information. (DWR, 9.) The District's original response indicated a water conservation plan would be submitted. (IID, 10B.) The District later requested an extension of time to prepare the plan. (IID, 10C.)

In a letter dated September 29, 1982, to Jack Coe of the Department of Water Resources, however, the District stated its conclusion that its use of water "is reasonable and does not involve unnecessary waste". The District went on to enumerate the elements of its existing water conservation program, most of which had been considered previously in the DWR investigation. Contrary to earlier indications that the District would prepare a water conservation plan of the type requested, the September 29 letter clearly indicates that the District had decided against such action. The letter also states that the District Board of Directors pledged to construct one regula tory reservoir each year until a sufficient number (estimated to be 20 to 22) is in place to accomplish objectives. Finally, the letter states that the District will "make certain that the various conservation programs, as amended, will be carried out to the letter without reservation". (IID, 10D.) As discussed in preceding sections, the District has not continued the regulatory reservoir program at the announced rate and there is considerable evidence that other elements of the District's own announced program have not been fully pursued.

13.3 *IID Board of Directors Resolution 8-84*

Following the close of the evidentiary portion of the Board hearing in this matter, on January 24, 1984, the IID Board of Directors adopted a resolution calling for reduction of IID inflow to the Salton Sea by 100,000 afa by July 1, 1985. (IID Brief, 2/21/84, Exhibit 1.)[10] Although the resolution indicates the District's acknowledgement that an increased conservation effort is appropriate, the resolution does not state, except in very general terms, how the proposed water conservation would be achieved. Furthermore, the resolution does not specify the level of inflow to the Salton Sea from which the proposed reduction is to be measured. Without more details on what the District intends to achieve and the steps to be taken, it appears likely that July 1, 1985, will arrive and it will be impossible to determine whether or not the objective of Resolution 8-84 has been achieved. In order to resolve these problems, the District should (1) specify in advance the standard by which it intends to measure the reduction of inflow to the Salton Sea and (2) identify and implement specific water conservation measures directed at achieving the intended reduction of inflow.

14.0 NEED FOR A COMPREHENSIVE WATER CONSERVATION PLAN

Imperial Irrigation District has taken several steps to promote water conservation over the last several years and there is evidence that a considerable effort to conserve water has been made by some of the farmers in the District. As discussed above, however, the evidence also

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[10]The Board takes official notice of this information. (See Footnote 8.)

establishes that there are additional steps which should be taken to develop a more effective water conservation program. Some of these measures such as maintenance of tailwater structures and better tailwater monitoring are called for under announced District policy, but have not been fully or consistently implemented. Other water conservation measures are not required under existing District policy, but would be in the interests of the District as well as in the overall interest of maximizing beneficial use of water.

The primary responsibility for evaluating and implementing potential water conservation measures for IID lies with the District itself. The fact that the District has the primary responsibility, however, does not justify nonperformance of that responsibility. In December of 1981 the Department of Water Resources advised the Board of Directors of its conclusion that a misuse of water was occurring and requested the District to prepare a detailed water conservation plan. Now, some two and one-half years later, this Board concludes that development and implementation of a detailed water conservation plan for Imperial Irrigation District are still necessary in order to make maximum beneficial use of available water in accordance with Article X, Section 2 of the California Constitution. The IID water conservation plan should address the subjects specified in the order which follows.

15.0 CONCLUSION

Approximately one million acre-feet per year of Colorado River water enter the Salton Sea as irrigation return flow from Imperial Irrigation District. This large quantity of freshwater is lost to further beneficial consumptive use and has contributed to the flooding of property adjoining the Salton Sea. Following diversion of major quantities of

water by the Central Arizona Project which is scheduled to begin in late 1985 or 1986, there will be insufficient water available from the Colorado River to satisfy the existing level of demand of California water users. Although Imperial Irrigation District has taken some steps to conserve water, the evidence establishes that there are additional practical measures available to reduce the present losses of water within the District. Under the circumstances of this case, the Board concludes that the failure to implement additional water conservation measures at this time is unreasonable and constitutes a misuse of water under Article X, Section 2 of the California Constitution and Section 100 of the California Water Code.

The water conservation measures which the Board has determined should be implemented as soon as possible are specified in Paragraphs 1.1, 1.2, 1.3 and 1.5 of the order below. The required measures will assist in reducing the amount of excess tailwater and canal spills, but will not limit the amount of water necessary for effective irrigation and leaching of fields. The evidence supports the conclusion that the required measures are reasonable and, in most instances, are already called for, but not fully implemented, under the District's announced policies. The record also establishes that additional water conservation would have several beneficial effects for the Imperial Irrigation District and the farmers within the District.

Other water conservation measures identified in the hearing record can be evaluated in the preparation of a comprehensive water conservation plan. Efficient water management and development of a water conservation plan will be facilitated by the availability of accurate information regarding quantities of water losses attribu-

table to various aspects of irrigation and water delivery operations. Therefore, Imperial Irrigation District should develop reliable procedures for determining the disposition of all water which it imports through the All-American Canal.

ORDER

IT IS HEREBY ORDERED that Imperial Irrigation District shall do the following:

1.1 Submit evidence to the Board by February 1, 1985, demonstrating that the District has fully implemented its announced policy of monitoring the tailwater discharge of all fields receiving water deliveries.

1.2 Repair or require water users within the District to repair defective tailwater structures and approach channels by February 1, 1985. The District shall also submit a plan by February 1, 1985, to ensure that the tailwater structures and approach channels are properly maintained on a continuing basis.

1.3 Develop and submit by February 1, 1985, a water accounting and monitoring procedure which will result in quantifying the following with reasonable accuracy: (1) actual deliveries to farmers' headgates, (2) tailwater, (3) canal spills, (4) canal seepage, and (5) leachwater. The water accounting procedures shall be capable of normalizing the data in order to make the information comparable from year to year. The District shall specify a schedule for implementing the water accounting procedure.

1.4 Submit a detailed and comprehensive water conservation plan by February 1, 1985, which includes the following elements:

a. *Tailwater Control:* The plan shall specify maximum acceptable tailwater limits and shall state how such limits were determined. A means of reducing tailwater from all deliveries to the specified limits within one year of the plan's initial implementation shall be specified. The plan shall describe an accurate method to be used for measuring tailwater from fields receiving deliveries. The plan shall include an evaluation of the present tailwater monitoring program, particularly the requirement that assessment for excessive tailwater must be preceded by two measurements at least nine hours apart. The plan shall specify in detail the role which an expanded irrigation education program will play in assisting to reduce tailwater.

b. *Canal Spills:* The plan shall identify the quantity of water lost in operational spills needed for occasional dewatering of unlined canals. The plan shall specify methods by which unintentional canal spills can be eliminated and shall establish a schedule for implementing such methods.

c. *Canal Seepage:* The plan shall include a priority list of canals or portions of canals which need improvements to reduce canal seepage. The most feasible method of financing those improvements shall be identified and a schedule for making the improvements shall be established.

d. *Leachwater:* Minimum leaching requirements shall be discussed. An evaluation of current leaching practices within the IID shall be made to assess the potential for savings from reduced leachwater application. Leaching requirements shall be specified for each of the major crops grown in the IID.

The water conservation plan shall specify the estimated costs of implementing the selected measures, the method of financing each measure, the schedule for implementation, and the persons who will be responsible for implementation of each selected measure. The plan shall also describe the measures implemented to achieve the District's announced goal of reducing inflow to the Salton Sea by 100,000 acre-feet per annum by July 1, 1985. A report on the progress to date in meeting this goal shall be provided.

1.5 Submit a plan to the Board by February 1, 1985, for resumption of the regulatory reservoir construction program. This plan shall identify the number of reservoirs to be built, the time schedule for construction and the proposed method for financing the program. The development of this plan shall be guided by the letter dated September 29, 1982, from former IID Board of Directors' President Gerald Moore to Jack Coe of the Department of Water Resources pledging to construct one reservoir per year.

1.6 Submit a progress report to the Board by October 1, 1984, specifying the steps that have been taken to comply with provisions 1.1 through 1.5 above. The Chief of the Division of Water Rights shall inform the District of specific information to be submitted in the progress report.

IT IS FURTHER ORDERED that:

2.1 Following submission of the plans required in provisions 1.2 through 1.5, the Board will review said plans for their adequacy to meet the specified objectives and the schedule for implementing the proposed actions.

2.2 After the Board determines that a plan is adequate to meet the specified water conservation objectives, the District shall submit progress reports every six months until the objectives have been achieved.

2.3 If the Board determines that a plan is inadequate to meet the specified objectives, the District shall submit a revised plan in accordance with further direction from the Board.

IT IS FURTHER ORDERED that:

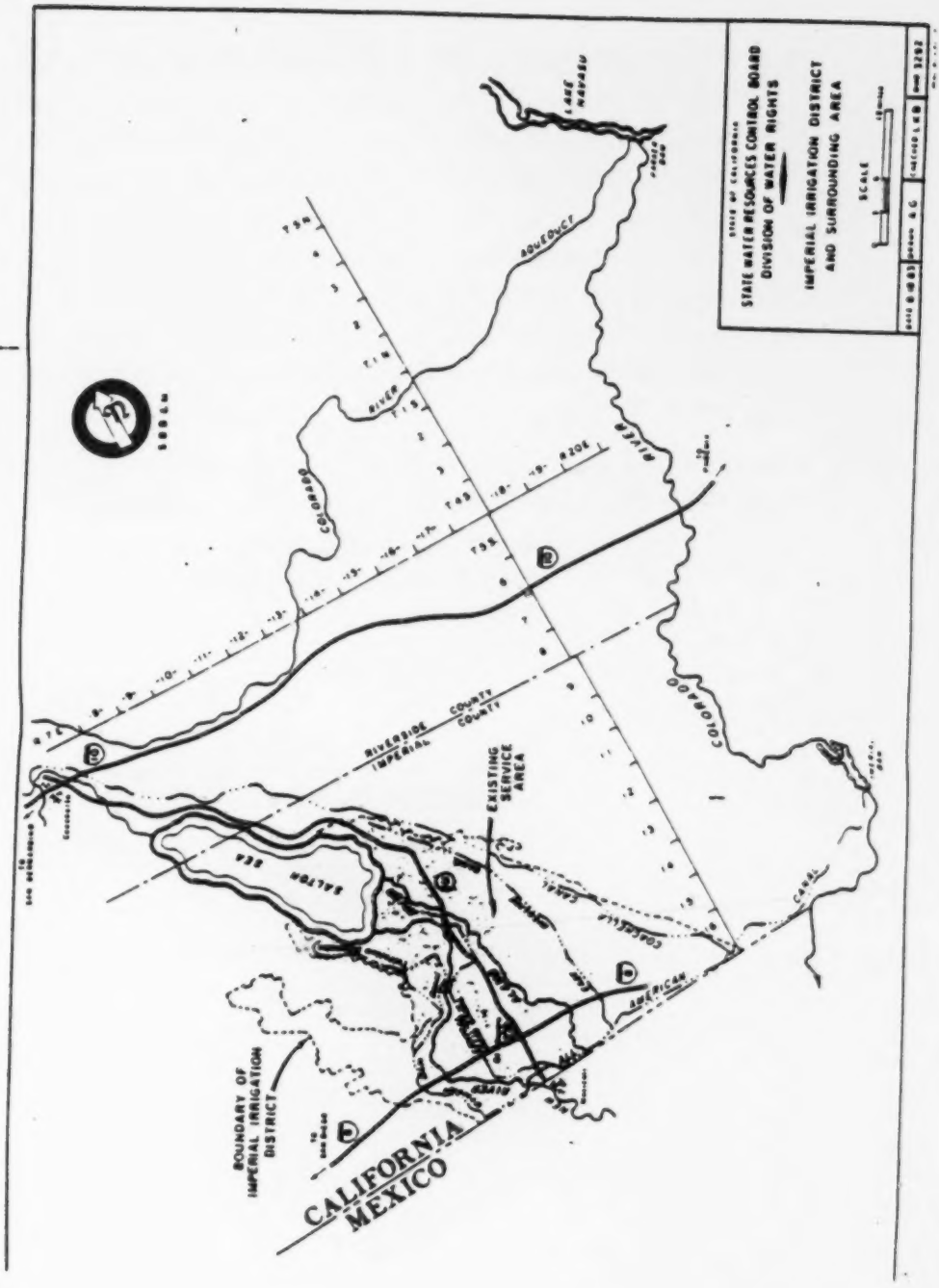
3.1 The Board reserves jurisdiction in this matter for the purposes of reviewing the adequacy of the required plans and District actions, to monitor the progress of the District in carrying out the various elements of the water conservation plan, and to take such other action as may be appropriate. The Board will continue to reserve jurisdiction until it determines that the requirements of Article X, Section 2 of the California Constitution are being met.

Dated: June 21, 1984

CAROLE A. ONORATO,
Chairwoman

WARREN D. NOTEWARE,
Vice-Chairman

KENNETH W. WILLIS, Member


STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
IMPERIAL IRRIGATION DISTRICT
AND SURROUNDING AREA
SCALE
LAKE HAVASU
AQUEDUCT
COLORADO RIVER
COLORADO RIVER
RIVERSIDE COUNTY
IMPERIAL COUNTY
EXISTING SERVICE AREA
SALTON SEA
COACHELLA CANAL
ALL-AMERICAN CANAL
BOUNDARY OF IMPERIAL IRRIGATION DISTRICT
CALIFORNIA
MEXICO

No.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In The Matter of

HEARING ON ALLEGED WASTE
AND UNREASONABLE USE OF WATER BY
IMPERIAL IRRIGATION DISTRICT

MEMORANDUM OF POINTS AND AUTHORITIES
ON BEHALF OF
IMPERIAL IRRIGATION DISTRICT

REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE
895 Broadway, Suite 101
El Centro, California 92243
(619) 352-2821
Attorneys for Imperial Irrigation District

PAUL D. ENGSTRAND
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation
2255 Camino del Rio South
San Diego, California 92108
(619) 291-0840
Special Counsel

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Bureau of Reclamation, Hearing Testimony, September 13, 1983 ..... 11, 27

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Hess Report, September 1983 ..... 18, 19

Holburt Statement, September 16, 1983 ..... 4, 17, 27

3. *Federal Supremacy.*

The doctrine of federal pre-emption or supremacy could become important if the SWRCB should disagree with IID's present operational procedures and decide that State Constitutional policies required that changes be made. Believing that IID's present practices will be vindicated by the SWRCB, we briefly note, what could become a quite complex legal issue.

In *Arizona v. California*, 373 U.S. 546 (1963), the Supreme Court stated:

> We have concluded, for reasons to be stated, that Congress in passing the Project Act intended to and did create its own comprehensive scheme for the apportionment among California, Arizona, and Nevada of the Lower Basin's share of the mainstream waters of the Colorado River, leaving each State its tributaries. *Id.* at 564-565.
>
> * * *
>
> The legislative history, the language of the Act, and the scheme established by the Act for the storage and delivery of water convince us also that Congress intended to provide its own method for a complete apportionment of the mainstream water among Arizona, California, and Nevada. *Id.* at 575.
>
> * * *
>
> . . . Congress made sure, however, that if the States did not agree on any compact the objects of the Act would be carried out, for the Secretary would then proceed, by making contracts, to apportion water

among the States and to allocate the water among users within each State. *Id.* at 579.

* * *

. . . Moreover, contrary to the Master's conclusion, we hold that the Secretary in choosing between users within each State and in settling the terms of his contracts is not bound by these sections to follow state law. *Id.* at 586.

* * *

Since § 8 of the Reclamation Act did not subject the Secretary to state law in disposing of water in that case, we cannot, consistently with Ivanhoe, hold that the Secretary must be bound by state law in disposing of water under the Project Act. *Id.* at 587.

* * *

. . . These principles, while they may provide some guidance, are not binding upon the Secretary where, as here, Congress, with full power to do so, has provided that the waters of a navigable stream shall be harnessed, conserved, stored, and distributed through a government agency under a statutory scheme. *Id.* at 594.

Thus, it is doubtful that the State of California (via IID, the Legislature, the Board, or the Courts) could direct any use or method of use of Colorado river waters "inconsistent with Congressional provisions authorizing the project in question." (*California v. United States*, 438 U.S. 645, 674 (1978). Consequently, it will be necessary that any plans to make water which is contracted for by

IID available for use by other potential users will require the consent and approval of the Secretary of Interior.[3]

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[3]Additional information about the history and unique nature of this irrigation project may be found in the following cases: *Jones v. California Development Co.*, 173 Cal. 565, 566-571 (1916); *California Development Co. v. New Liverpool S. Co.*, 172 Fed. 792, 794 (9th Cir. 1909); *U.S. v. Imperial Irr. Dist.*, 322 F.Supp. 11, 11-13 (So. Cal. 1971); *U.S. v. Imperial Irr. Dist.*, 559 F.2d 509, 514-515 (9th Cir. 1977); *Bryant v. Yellen*, 447 U.S. 352, 356 (1980).

ENDORSED FILED OCT 22 1984
By T.A. NICE Deputy County Clerk

No. 58706

IN THE SUPERIOR COURT OF THE
STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Plaintiff and Petitioner,

vs.

STATE WATER RESOURCES CONTROL BOARD,
a public agency,
Defendant and Respondent.

COMPLAINT FOR DECLARATORY RELIEF; AND PETITION FOR PEREMPTORY WRIT OF MANDATE, IN THE ALTERNATIVE

(C.C.P. §§ 1060, 1085, and 1094.5)

J. PENN CARTER
REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE
El Centro, California 92243
(619) 352-2821

PAUL D. ENGSTRAND
GREGORY V. MOSER
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation
2255 Camino del Rio South
San Diego, California 92108
(619) 291-0840

Attorneys for Plaintiff and Petitioner
Imperial Irrigation District

CAPACITY OF PARTIES

1. Plaintiff and Petitioner, Imperial Irrigation District (hereinafter "IID"), is a public agency formed under the Irrigation District Law (Water Code § 20500 et seq.) and located within the County of Imperial, California. IID is authorized to do any act necessary to furnish sufficient water for any beneficial use, including the use of water for domestic consumption, irrigation, recreation and electric power generation. (Water Code §§ 22075, 22115, 22185. All sections hereafter referenced are from the Water Code unless otherwise noted.) The elected Board of Directors of the District is authorized to commence, maintain, defend, compromise and assume the costs of any action or proceeding affecting the District's use of water or water rights or other interests. (§§ 22650, 22651, 22654.)

2. IID is authorized to adopt a water conservation program for the purpose of conserving the water supplies available to it. (§ 375.)

3. Defendant and Respondent, State Water Resources Control Board (hereinafter "SWRCB") is a statewide board created to carry out certain functions of the State in the field of water resources as prescribed by statute. (§§ 174, et seq.; 1050; 13000, et seq.) These functions include granting permits or licenses, water pollution functions, (§ 179) and conducting investigations (§ 183). It may investigate the unauthorized use of water and initiate suit in Superior Court (§ 1052). It may initiate proceedings before executive, legislative and judicial agencies to prevent waste. (§ 275.)

4. Venue is proper in this judicial district, pursuant to § 393 of the Code of Civil Procedure, in that the SWRCB is a public officer which issued Decision 1600 in June 1984

concerning the operations and rights of IID within Imperial County. (It is Exhibit A hereto, hereinafter "Decision".)

5. Decision 1600 states, at p. 2:

> [T]he Board concludes that the provisions of Article X, section 2 of the California Constitution require that the Imperial Irrigation District take several actions to improve its water conservation program, as specified in this decision.

It concludes with an Order "that Imperial Irrigation District shall do the following:" (Decision, 67-71.)

6. On July 23, 1984, IID requested reconsideration of Decision 1600 on the grounds that all water IID diverts from the Colorado River is put to multiple beneficial uses and no alternative beneficial use for the water presently exists.

7. On September 20, 1984, the SWRCB issued an Order denying the request of IID for reconsideration. (It is Exhibit B hereto.)

WATER RIGHTS OF IID

8. Organized in 1911, IID includes 1,062,000 acres of land located between the southern end of the Salton Sea and the Mexican border. Since before 1929, the District has delivered water for irrigation purposes to more than 420,000 acres of privately owned farmland in the Imperial Valley (*Bryant v. Yellen*, 447 U.S. 352, 356 (1980).) Today, some 460,000 acres are under cultivation.

9. IID owns, operates and maintains approximately 1,760 miles of water distribution facilities, 1,450 miles of drainage canals, hydro-electric plants and other facilities. The return flows from these operations enter the Salton

Sea and enhance fish and wildlife resources. Each of these uses under California law is a beneficial use of water.

10. IID holds adjudicated appropriative rights to Colorado River water which were vested prior to the creation of the SWRCB, or its predecessor, the State Water Commission. IID has currently perfected water rights, through contract, decree and use, of approximately 2.6 million acre feet annually, with a priority date of 1901. (*Arizona v. California* (1979) 439 U.S. 419, 429; *Bryant v. Yellen*, *supra* at 365.) The exercise of these rights is challenged by the order in Decision 1600.

WATER USE BY IID

11. Between 1955 and 1982 the amounts diverted by IID at Drop 1 from the Colorado River ranged from 2.516 million acre feet in 1982 to 3.072 million acre feet in 1974 and averaged 2.821 million acre feet. The water diverted produces power and is delivered by IID to its customers — farmers, cities and other users.

12. The vast array of crops grown, the severe climatic patterns, the complex soil conditions, the extensive gravity water delivery system and the demands of its customers all influence the decisions made by IID about its operational practices. However, between 1955 and 1982 the conveyance system efficiency (i.e., the percent of the amount received by IID which was ultimately delivered to users) varied from 67% in 1955 to 91.7% in 1979. For the ten-year period 1973-1982, it averaged 90.6%.

13. Water diverted by IID which is not consumptively used enters the Salton Sea. The United States has set aside about 120,000 acres and IID owns about 120,000 acres of land under and near the Sea which serve the

purpose of providing a drainage reservoir for these return waters. In addition, IID owns flooding easements on substantial acreage surrounding the Sea. As a result a large fishery and recreation area has been created that provides the best fishery in California.

14. IID has gradually and continually improved the efficiency of its water system. Over $27 million of capital expenditures have been made for this purpose and currently about $620,000 of annual expenditures are being made to maintain and improve water system efficiency. Independent studies of the IID system in 1983 by the Bureau of Reclamation and Colorado River Board have concluded that even though the irrigation system of the District was constructed in the early 1900's it operates as efficiently as neighboring irrigation projects.

15. The system's efficiency is a result of many factors. Tiled drains include 26,000 miles of on-farm tile drains draining over 400,000 acres. A canal lining program was initiated in the early 1960's. Approximately 860 miles of canal distribution system have been lined with concrete. Recently, regulatory reservoirs providing storage of 1,570 acre feet have been constructed on each of the three main canals, East Highline, Central Main and Westside Main. The fourth and newest reservoir, began operating May 1, 1983, and stores water from the Rositas Canal. The District has constructed 6 miles of drainage lines parallel to the East Highline Canal to recover canal seepage losses. Water entering these drains is pumped back into the canal for delivery to farms. Through 1982, it is estimated that nearly 210,000 acre feet has been recovered at a cost of $492,000. Approximately $50,000 per year is budgeted for future operation, maintenance and power costs of this program. Since 1976, farm delivery boxes have been installed or reconstructed for better

water control and measurement of farm deliveries. In the early 1980's, the District installed remote electronic monitoring and control devices at 20 locations, including the All-American Canal. Since then, remote control telemetry has been installed at the Oscar Fudge Reservoir outlet located at Check No. 4 of the Central Main Canal.

16. The District has a water conservation program which includes a Water Conservation Advisory Board made up primarily of District farmers. It employs skilled soil conservation advisors to cooperate with farmers in improving on-farm efficiency and to work with the Bureau of Reclamation in connection with studies and programs about water conservation opportunities.

17. All water diverted by IID and distributed to and used by its customers is used in a reasonable manner and for reasonable beneficial purposes.

DECISION 1600 AND ORDER OF THE SWRCB

18. After reviewing the operational practices of IID, the SWRCB commanded, by Decision 1600, IID to "demonstrate that the District has fully implemented" its tailwater discharge monitoring policy and to "[r]epair or require the water users within the District to repair defective tailwater structures and approach channels by February 1, 1985." (Decision, 67.) But, the core of the Order is a command to IID to produce "a detailed and comprehensive water conservation plan by February 1, 1985" which "shall specify the estimated costs of implementing the selected measures, the method of financing each measure, the schedule for implementation, and the persons who will be responsible . . . ." (Decision, 68-70.) The Order reserves to the SWRCB the right to "determine that [each] plan is adequate." (Decision, 70.) Moreover, the Decision found that ". . . failure to implement

additional water conservation measures at this time is unreasonable and constitutes a misuse of water under Article X Section 2 of the California Constitution . . . ." (Decision, 66.)

RIGHT TO DECLARATORY RELIEF
(C.C.P. § 1060)

19. An actual controversy has arisen in that IID contends that the SWRCB has no right to make findings or issue orders, as contained in Decision 1600, which become legally binding on IID. The SWRCB contends that it can make findings and issue orders requiring IID to change its operational decisions and to compoly with the plans, programs, and edicts of the SWRCB which it claims become legally binding on IID.

RIGHT TO JUDICIAL REVIEW BY MANDAMUS
(C.C.P. §§ 1085 and 1094.5)

20. IID's fundamental and vested rights to take and use water from the Colorado River pursuant to appropriations commenced in 1901, interstate compacts, acts of Congress and the Legislature of California, contracts with the United States and public agencies, and decrees of the United States Supreme Court have been infringed upon, impaired, and violated by Decision 1600 and the purported orders therein by the SWRCB.

21. The SWRCB has prejudicially abused its discretion in that:

a. it did not proceed in the manner required by law;

b. it issued an order purporting to compel IID to manage its resources and facilities in a particular

fashion contrary to the operational policies and practices of IID;

c. it found that IID has violated Article X, Section 2 of the California Constitution;

d. it found that IID has violated Article X, Section 2 of the California Constitution which is contrary to the weight of the evidence.

PROCEDURAL REQUIREMENTS FOR JUDGMENT AND, IN THE ALTERNATIVE, A WRIT

22. IID has exhausted all available administrative remedies, whether or not required or authorized by law, including appearing and presenting written and oral testimony at the hearings held by the SWRCB, and requesting reconsideration of Decision 1600 upon the suggestion of the SWRCB.

23. IID has no plain, speedy and adequate remedy at law, other than the relief sought in this Complaint and Petition.

24. If the Decision and order of the SWRCB are not annulled and declared invalid, IID and the public will suffer irreparable harm in that IID will be compelled to allow water to waste to the Gulf of California, rather than be put to a beneficial use. IID and its inhabitants will further be damaged in that they will be compelled to incur substantial and needless expense to increase the amount of water not put to beneficial use and allowed to waste to the Gulf of California.

25. If the Decision and order of the SWRCB are not annulled and declared invalid, IID will suffer irreparable harm in that a cloud will be placed over its legislative

right to manage itself and its adjudicated rights to divert water from the Colorado River. IID will be further damaged in that it will be prevented from putting water to beneficial use and required to permit water to waste past the international boundary with the Republic of Mexico and into the Gulf of California.

WHEREFORE, Plaintiff and Petitioner prays as follows:

1. That this court render judgment declaring that Decision 1600 and the orders therein have no legal efficacy and are not binding on IID;

2. In the alternative, that a peremptory writ of mandate issue under the seal of this Court commanding the State Water Resources Control Board to set aside or vacate Decision 1600 insofar as it finds there is a violation of Article X, Section 2 of the California Constitution by IID or purports to order IID to cease "misuse" of water, submit plans or take any other step specified in Decision 1600.

3. That Defendant and Respondent shall be required to produce the complete record of the prior investigatory proceedings in this court and IID be given an opportunity to present evidence at trial as to disputed issues of fact;

4. That during the pendency of this action, Defendant and Respondent and its agents and assigns, be enjoined and restrained from implementing or enforcing any of the provisions of the Order in Decision 1600;

5. Plaintiff and Petitioner recover reasonable attorney's fees and costs; and

6. That the Court grant such other relief as may be just and proper.

Date: October 22, 1984

RESPECTFULLY SUBMITTED,

J. PENN CARTER
REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE

PAUL D. ENGSTRAND
GREGORY V. MOSER
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation

By _____
PAUL D. ENGSTRAND
Attorneys for Plaintiff/Petitioner, Imperial Irrigation District

No. 58706

IN THE SUPERIOR COURT OF
THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF IMPERIAL

IMPERIAL IRRIGATION DISTRICT,
Petitioner and Plaintiff,
vs.
STATE WATER RESOURCES CONTROL BOARD,
a public agency,
Respondent and Defendant.

MEMORANDUM OF POINTS AND AUTHORITIES OF IMPERIAL IRRIGATION DISTRICT IN SUPPORT OF COMPLAINT FOR DECLARATORY RELIEF, IN THE ALTERNATIVE FOR A WRIT OF MANDAMUS AND SUGGESTION FOR PROCEDURAL APPROACH

J. PENN CARTER
REGINALD L. KNOX, JR.
HORTON, KNOX, CARTER & FOOTE
895 Broadway, Suite 101
El Centro, California 92243
(619) 352-2821

PAUL D. ENGSTRAND
GREGORY V. MOSER
JENNINGS, ENGSTRAND & HENRIKSON
A Professional Law Corporation
2255 Camino del Rio South
San Diego, California 92108
(619) 291-0840

Attorneys for Petitioner and Plaintiff
Imperial Irrigation District

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V.

IF, PERCHANCE, QUASI-JUDICIAL OR LEGISLATIVE JURISDICTION HAS BEEN VESTED IN THE SWRCB, JUDICIAL REVIEW BY MANDAMUS IS APPROPRIATE.

If this Court agrees with IID and decides that Decision 1600 has no legal efficacy against IID, there will be no need to discuss or analyze further, in this proceeding, what the correct legal posture will be in future or different actions.[6]

The SWRCB will have the option, as in *Forni, supra,* "to pursue judicial action" via the Attorney General. (23 Cal. Admin. Code § 4006.) It may also institute an action under section 1052. Nevertheless, from an abundance of caution, IID seeks judicial review by mandamus of Decision 1600 if it fails in its declaratory relief action.

A. *A Threshold Question — Federal Supremacy Principles.*

Before discussing the scope of review applicable to Decision 1600, we raise an issue of great importance and first impression. What is the force of Art.cle X, section 2 upon the federally sanctioned water rights of IID? We do not intend to fully brief the issue at this time, but if mandamus review does occur, the intention is to extensively elaborate upon the points here made.

As noted above (IV, B), IID's water rights are steeped in history, large in amount, earmarked for use in Imperial

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[6]For example, there is presently pending a Petition for Hearing to the Supreme Court by IID, filed September 24, 1984, after a decision by the Fourth Appellate District, involving questions about the operational practices of IID. (See, *Elmore v. Imperial Irrig. Dist.* (1984) 159 Cal.App.3d 185.)

Valley, and grounded in interstate compacts, acts of congress, decrees of the United States Supreme Court, as well as, enactments by the California legislature and contracts among California agency-users. Thus, the potential for conflict between the applicability, in a given situation of state or federal law exists.

The principle, where a conflict arises between federal and state law, that federal law prevails is based on Article VI of the federal constitution. It provides that "This Constitution and the laws of the United States . . . shall be the supreme law of the land . . . ." Any state law ". . . which interferes with or is contrary to federal law, must yield." (*Free v. Bland* (1962) 369 U.S. 665, 667. see, *Perez v. Campbell* (1971) 402 U.S. 637; *Dolores Canning Co. v. Howard* (1974) 40 Cal.App.3d 673).

The Supreme Court has emphasized the important role that federal law will have in any controversy about IID's right to take and use Colorado River water. It has written about the ". . . whole network of useful projects up and down the [Colorado] river . . . [which] . . . the United States operates . . . [and which] could function efficiently only under *unitary* management, able to formulate and supervise a coordinated plan . . . [to] take account of the diverse, often conflicting interests of the people and communities of the Lower Basin States," *Arizona v. California, supra* 373 U.S. at 589.

The Court concluded:

> Recognizing this, Congress put the Secretary of the Interior *in charge* of these works and entrusted him with sufficient power, principally the § 5 contract power, to direct, manage, and coordinate their operation. Subjecting the Secretary to the varying, possibly inconsistent, commands of the different state legislatures *could frustrate*

> efficient operation of the project and thwart full realization of the benefits Congress intended this *national project* to bestow. We are satisfied that the Secretary's power must be construed to permit him, within the boundaries set down in the Act, to allocate and distribute the waters of the mainstream of the Colorado River.

(*Id.* at 590.)

IID's 1932 contract for the delivery of water was made pursuant to this "§ 5 contract power". Therefore, prior to the decision of the Supreme Court in *California v. United States* (1978) 438 U.S. 645, it was generally believed that state law had no impact upon the water rights (the diversion, distribution and use) of IID. However, since that case, it *may* be that state law could have some impact upon IID's water rights.

For example, the California Supreme Court has interpreted that case, as applied to the Central Valley Project, to authorize California to "... impose any condition *not inconsistent* with congressional directive." (*Environmental Defense Fund, Inc. v. East Bay Mun. Util. Dist.* (1980) 26 Cal.3d 183, 192.) Of course there is a big difference between the Congressional directives for the CVP and the Colorado River Project.

Discussing the Colorado River project, the U.S. Supreme Court pointed to the "... unique size and multistate scope of the [Boulder Canyon] Project, [and that] Congress did not intend the states to interfere with the Secretary's power to determine with whom and on what terms water contracts would be made." (*California v. United States, supra*, 438 U.S. 674.)

Justice White, dissenting, attributed "the revisionary zeal of the present majority" (*Id.* at 693) as the explana-

tion why the court was departing from perceived prior precedent that the Secretary was not required "... to follow state law in distributing project water because § 8 dealt with *acquisition*, not *distribution*, of reclamation water." *Id.* at 690, (emphasis *not* added). The majority, as explained by the California Supreme Court above, held that "Congress did not intend to relinquish total control of the actual distribution of the reclamation water to the states." (*Id.* at 667, n.21.) But, it ruled that states could impose conditions "... which are not inconsistent with congressional provisions authorizing the project in question." The U.S. Supreme Court remanded that case affecting the CVP for further proceedings to ascertain whether "... the conditions actually imposed are inconsistent with congressional directives as to the New Melones Dam." (*Id.* at 679.)

We now explain why the findings of Decision 1600 actually conflict with and are inconsistent with congressional directives as pertain to IID and its water rights.

B. *Decision 1600 Conflicts With Congressional Directives.*

We shall await the Court's ruling on jurisdiction before making the extended argument which this topic deserves. However, a few points deserve attention at this juncture.

In its "Order Affirming Decision 1600 and Denying Petitions for Reconsideration",[7] the SWRCB wrote several "... paragraphs [to] elaborate further on the Board's position regarding ... [IID's points]." (*Id.* at 18.)

The SWRCB conceded that IID was making beneficial use of all water diverted but said "... that the existence

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[7]This Order (hereinafter "Order Affirming") is Exhibit B to the Complaint.

of a beneficial use of water does not foreclose a finding of misuse under the California Constitution." (Order Affirming, 5.) After discussing the beneficial uses made by IID (*Id.* at 4-13) other potential uses were discussed (*Id.* at 14-17) and the Board drew an enormously erroneous finding and conclusion. It said:

> In summary, water conserved by IID will be needed for consumptive use within California in the very near future. In the interim, however, any water which may be conserved could be placed in groundwater storage or could be left in the Colorado River where it would serve the important purposes of fishery enhancement and salinity reduction.

(*Id.* at 16-17.)

Thus, contrary to the adjudicated and contract rights which IID has to take water for "irrigation and generation of power", the SWRCB would *require*[8] IID to take measures to make water available for others "... within California in the very near future. In the interim ... [find someone] ... to place [it] in groundwater storage or ... [leave it] in the Colorado River where it could serve ... [the Republic of Mexico]." (*Id.* 16-17.)

It is hard to understand how the SWRCB can justify this kind of usurpation of IID's contract rights with the United States. The Secretary's representatives have appeared before the SWRCB and even urged the Board to reconsider its Decision 1600. The Bureau testified that IID's practices were reasonable, within the contract's provisions, and that there was no misuse. (See, Order Affirming, 23-24) Despite this clearly stated position, the

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[8]A different issue would arise if IID were itself electing to choose some alternative available to it. (E.g. § 382).

SWRCB chooses to create a conflict, override the Bureau's judgment, infringe upon IID's contractual and other water rights, and order IID to change its operational practices.

Another conflicting finding is "... that the beneficial effect of the present quantity of IID inflow [to the Salton Sea drainage reservoir] is outweighed by the adverse effect of the rising water level on surrounding property ...." Order Affirming, 9-10.

Although the SWRCB recognizes that each acre foot of water diverted generates energy worth about $5 (Decision, 7-8), it ignores the fact that in addition to being a beneficial use of water according to California law (Water Code § 1257; 23 Cal. Adm. Code §§ 661-668.5; *Meridian, Ltd. v. San Francisco* (1939) 13 Cal.2d 424, 434, 441, 459; *East Bay Mun. Dist. v. Dept. of Pub. Wks.* (1934) 1 Cal.2d 476), the 1932 Contract guarantees to IID "... the privilege ... of utilizing ... such power possibilities as may exist upon said canal." Article 14.

IID contends that so long as it is exercising its contractual rights and complying with the lawful directives of the Secretary it cannot be in violation of state law in connection with the diversion, distribution, and use of Colorado River water.

ADMINISTRATIVE RECORD

IMPERIAL IRRIGATION DISTRICT,
Petitioner,

v.

STATE WATER RESOURCES CONTROL BOARD,
Respondent.

ENVIRONMENTAL DEFENSE FUND, INC.
Intervenor.

PETITION FOR A WRIT OF MANDATE TO REVIEW STATE WATER RESOURCES CONTROL BOARD WATER RIGHT DECISION 1600

Imperial County Superior Court Case No. 58706

DETAILED INDEX

STATE WATER RESOURCES CONTROL BOARD
REGARDING
IMPERIAL IRRIGATION DISTRICT

PART I

Complaint and Correspondence

Item	Document
1.	Letter dated June 17, 1980 from John Jameson Elmore to Ronald B. Robie, Director, Department of Water Resources requesting investigation of alleged misuse of water by Imperial Irrigation District.
2.	Letter dated June 18, 1980 from John Jameson Elmore to Carla M. Bard, Chairperson, State Water Resources Control Board, requesting hearing on alleged misuse of water.
3.	Letter dated June 18, 1980 from David Osias to Carla M. Bard, Chairperson, State Water Resources Control Board.
4.	Draft letter dated July 17, 1980 from Walter G. Pettit, Division of Water Rights, to John Jameson Elmore.
5.	Agenda item, State Water Resources Control Board Preworkshop Session — Water Rights, July 10, 1980 (with attachments).
6.	Agenda item, State Water Resources Control Board Workshop Session, July 30, 1980.
7.	Report, Department of Water Resources Southern District, Coachella and Imperial Valleys Agricultural Land Use Study 1978. July 1980.

Item	Document

8. Office memo dated August 2, 1980 (handwritten), from WGP (Walter G. Pettit, Division of Water Rights) to MLS (Mark L. Stretars).
9. Letter dated August 1, 1980 from Laura Morgan, California Waterfowl Association to State Water Resources Control Board.
10. Office Memo dated August 6, 1980 from Walter G. Pettit, State Water Resources Control Board, to W. R. Attwater and Board Members.
11. Reply to Office Memo, dated 8-13-80 from Jill (Dunlap, SWRCB Board Member) to Walter G. Pettit.
12. Letter dated August 6, 1980 from Ronald B. Robie, Department of Water Resources to John J. Elmore notifying Mr. Elmore that Department would investigate his complaint.
13. Memo dated August 6, 1980 from Ronald B. Robie, Department of Water Resources to Carla M. Bard, Chairwoman, State Water Resources Control Board.
14. Letter dated August 6, 1980 from Ronald B. Robie to Tony Gallegos, President, Imperial Irrigation District Board of Directors informing Imperial Irrigation District of Elmore complaint and commencement of Department's investigation.
15. Letter dated August 13, 1980 from Anthony P. Gallegos, President, Imperial Irrigation District Board of Directors to Jack Coe, Department of Water Resources Southern District.
16. Memo to file dated August 18, 1980 from M. L. Stretars, State Water Resources Control Board Investigation and Surveillance Unit.

Item	Document

17. Letter dated August 18, 1980 from Luree Stetson, California Municipal Utilities Association to Walt Pettit, Division of Water Rights (with attachments).
18. Contact Report dated August 21, 1980 from E. Miller, Division of Water Rights.
19. Contact Report dated September 11, 1980 from Ernest M. Miller, Division of Water Rights.
20. Letter dated September 12, 1980 from Walter G. Pettit, Division of Water Rights to John Jameson Elmore.
21. Letter dated September 17, 1980 from Ronald B. Robie, Department of Water Resources to Anthony P. Gallegos, President, Imperial Irrigation District Board of Directors.
22. Letter dated September 25, 1980 from David L. Osias, attorney, to Ronald B. Robie, Department of Water Resources.
23. Memo to five listed parties dated September 25, 1980 from D. Chapin, California Waterfowl Association regarding Salton Sea Wetland Development Proposal.
24. Memo dated October 3, 1980 from Ronald B. Robie, Department of Water Resources, to Carla M. Bard, Chairwoman, State Water Resources Control Board, regarding DWR report on use of Colorado River water.
25. Letter to four listed parties dated October 9, 1980 from M. L. Stretars, Investigation and Surveillance Unit (SWRCB).

Item	Document
26.	Letter dated October 9, 1980 from Jack J. Coe, Department of Water Resources, to Patricia A. Stanley, attorney.
27.	Memo to files dated October 10, 1980 from M. L. Stretars, Investigation and Surveillance Unit (SWRCB).
28.	Letter dated October 21, 1980 from Jack J. Coe to David L. Osias.
29.	Letter dated October 24, 1980 from Charles R. Shoemaker for Ronald Robie, Department of Water Resources, to Tony Gallegos, resident, Imperial Irrigation District Board of Directors.
30.	Letter dated October 27, 1980 from Paul A. Mitchell, Director, Imperial Irrigation District, to Metropolitan Water District of Southern California (IID Resolution 89-90 attached).
31.	Agenda item, State Water Resources Control Board Workshop Session, October 28, 1980.
32.	Letter dated October 31, 1980 from Jack J. Coe, Department of Water Resources, to Bill Dungey, Salton Sea Beach Property Owners Association.
33.	Letter dated November 7, 1980 from R. F. Carter, iid3, to Charles R. Shoemaker, Department of Water Resources.
34.	Letter dated November 13, 1980 from Anthony P. Gallegos, President, Imperial Irrigation District Board of Directors, to Ronald B. Robie, Department of Water Resources.

Item	Document
35.	Letter dated November 17, 1980 from Francis Griset, et al., to Carla Board, Chairperson, State Water Resources Control Board, requesting hearing on the alleged misuse of water by Imperial Irrigation District.
36.	Letter dated November 18, 1980 from Evan L. Griffith, Metropolitan Water District of Southern California, to Paul Mitchell, Director, Imperial Irrigation District.
37.	Letter dated November 19, 1980 from Jack J. Coe, Department of Water Resources, to Michael Storper, Friends of the Earth. (Attachment: incoming letter.)
38.	Memo to files dated December 4, 1980 from M. L. Stretars, Investigation and Surveillance Unit, State Water Resources Control Board. (Attachments to memo are not included. Attachments consist of a map, photos of Imperial Irrigation District and publication entitled "Welcome to the Imperial Irrigation District.")
39.	Memo dated November 24, 1980 from Jack J. Coe, Department of Water Resources, to Gerald H. Meral regarding Colorado River Excess Releases.
40.	Memorandum dated December 11, 1980 from Jack Walker, Department of Water Resources, to Clyde B. Arnold, Robert Chun and Jack J. Coe (with attachment).
41.	Memo dated January 5, 1981 from Jill B. Dunlap, Board Member, State Water Resources Control Board, to William R. Attwater, Chief Counsel.

Item	Document

42. Memo dated January 7, 1981 from Mark L. Stretars, Investigation and Surveillance Unit, State Water Resources Control Board, to Jack Walker, Department of Water Resources. (Acknowledgment of receipt of memo attached.)

43. Memo dated January 13, 1981 from M. G. Taylor, State Water Resources Control Board to Jim Markle, State Water Resources Control Board.

44. Letter dated January 20, 1981 from Walter G. Pettit, Division of Water Rights to John Jameson Elmore.

45. Memo dated January 20, 1981 from Mark L. Stretars, Investigation and Surveillance Unit, State Water Resources Control Board, to Jack Walker, Department of Water Resources. (Acknowledgment of receipt attached.)

46. Agenda item, State Water Resources Control Board Workshop Session dated January 27, 1981, Report of Progress of Investigation by Department of Water Resources.

47. Letter dated February 10, 1981 from Jack J. Coe, Department of Water Resources, to Ray M. Bussard, President, Salton Sea Property Owners Association.

48. Memo dated February 10, 1981 from Glenn K. Mork, State Water Resources Control Board, to Murt K. Lininger.

49. Memo dated February 27, 1981 from Walter G. Pettit, Division of Water Rights to Neil Dunham, State Water Resources Control Board and State Water Resources Control Board Members.

Item	Document
50.	Letter dated March 9, 1981 from Jack J. Coe, Department of Water Resources, to Thomas J. Graff, Environmental Defense Fund.
51.	Letter dated March 12, 1981 from Don Chapin, California Waterfowl Association, to Jack Coe, Department of Water Resources.
52.	Report by Department of Water Resources Southern District entitled, "Investigation of John J. Elmore Allegations of Misuse of Water by Imperial Irrigation District, Under California Water Code Section 275". Draft Report dated April 1981.
53.	Memo dated April 3, 1981 from Jack J. Coe, Department of Water Resources, to Gerald H. Meral and Ronald B. Robie, Department of Water Resources.
54.	Newspaper article entitled, "Report: Canal Unneeded If Waste Halted", Sacramento Bee (undated).
55.	Memo dated April 28, 1981 from Jill B. Dunlap, Member, State Water Resources Control Board, to Board Members, State Water Resources Control Board.
56.	Memo dated May 4, 1981 from Adrian Griffin, Department of Water Resources, to Ed Craddock and Suzanne Butterfield, Department of Water Resources.
57.	Memo dated May 6, 1981 from Myron Holbert, Colorado River Board of California, to Jack J. Coe, Department of Water Resources (attachments).
58.	Letter dated May 7, 1981 from Ronald Robie, Department of Water Resources, to Anthony P. Gallegos, Director, Imperial Irrigation District.

Item	Document

59. Memo dated May 8, 1981 from Raymond Walsh, Chief, Division of Water Rights, State Water Resources Control Board, to Neil Dunham and Board Members, State Water Resources Control Board, regarding summary of Department of Water Resources Preliminary Report of Investigation of Misuse of Water by Imperial Irrigation District (attachment).

60. Letter dated May 15, 1981 from David L. Osias to Carla Bard, Chairperson, State Water Resources Control Board.

61. Report of Activities of the Department of Water Resources by Ronald B. Robie, Director (undated excerpts).

62. Memo dated May 29, 1981 from Raymond Walsh, Division of Water Rights, State Water Resources Control Board, to Neil Dunham, State Water Resources Control Board.

63. Letter dated June 9, 1981 from Carla M. Bard, Chairwoman, State Water Resources Control Board, to David L. Osias.

64. Memo dated June 22, 1981 from William R. Attwater, State Water Resources Control Board, to Neil Dunham and Ray Walsh, State Water Resources Control Board.

65. Memo dated September 29, 1981 from Ray Walsh, State Water Resources Control Board, to Neil Dunham and Board Members, State Water Resources Control Board.

66. Memo dated December 8, 1981 from Ronald B. Robie, Department of Water Resources, to Carla M. Bard, Chairwoman, State Water Resources Control Board.

Item	Document
67.	Letter dated December 24, 1981 from Lowell O. Weeks, Coachella Valley Water District, to Jack J. Coe, Department of Water Resources.
68.	Memo dated December 29, 1981 from Ray Walsh, State Water Resources Control Board, to Neil Dunham and Board Members, State Water Resources Control Board.
69.	Memo dated January 4, 1982 from Charles A. Rich, State Water Resources Control Board, to Files. (Attachments)
70.	Contact Report dated January 12, 1982 from Charles Rich, State Water Resources Control Board.
71.	Issue Paper, "Alleged Misuse of Water by Imperial Irrigation District" dated January 12, 1982.
72.	Agenda item for State Water Resources Control Board Workshop Session, February 3 and 4, 1982.
73.	Memo dated February 3, 1982 from Jack J. Coe, Department of Water Resources, to Raymond Walsh, State Water Resources Control Board.
74.	Letter dated March 4, 1982 from Harold L. Moore, President, Board of Directors, Imperial Irrigation District, to Jack J. Coe, Department of Water Resources.
75.	Memo dated March 19, 1982 from Charles A. Rich, Investigations and Surveillance Unit, State Water Resources Control Board, to M. G. Taylor, State Water Resources Control Board.
76.	Contact Report dated March 25, 1982 from Charles Rich, State Water Resources Control Board.

Item	Document
77.	Memo dated April 8, 1982 from Jack J. Coe, Department of Water Resources, to Raymond Walsh, State Water Resources Control Board.
78.	Memo dated April 21, 1982 from Raymond Walsh, Division of Water Rights, State Water Resources Control Board to Jack J. Coe, Department of Water Resources.
79.	Contact Report dated May 17, 1982 from Charles Rich, Division of Water Rights, State Water Resources Control Board.
80.	Letter dated June 4, 1982 from J. Penn Carter to Jack J. Coe, Department of Water Resources.
81.	Annual Report of Colorado River Board of California for Year Ending December 31, 1982. (Attachment: Cover letter dated July 15, 1982 from Patricia Nagle, Chairman to Governor Edmund G. Brown, Jr.)
82.	Letter dated September 24, 1982 from Jack J. Coe, Department of Water Resources, to Gerald L. Moore, President, Imperial Irrigation District Board of Directors.
83.	Declarations of Mildred Bowman, Boyd F. Thomas, Mrs. Arthur Qualls, Joseph Geimer, Lola M. Baker, and Elmer E. Plumb.
84.	Letter dated October 12, 1982 from Thomas J. Graff, Environmental Defense Fund, to Richard E. Angelos, Department of Water Resources. (Attachments)

Item	Document

85. Memo dated October 28, 1982 from Raymond Walsh, Division of Water Rights, State Water Resources Control Board, to M. A. Campos, Deputy Executive Director, State Water Resources Control Board.

86. Letter dated November 1, 1982 from Ronald B. Robie, Director, Department of Water Resources, to Carole A. Onorato, Chairwoman, State Water Resources Control Board. Letter refers the matter of alleged misuse of water by IID over to the State Water Resources Control Board pursuant to the provisions of the California Administrative Code. (Attachments are copies of correspondence generated during DWR investigation which are not otherwise set forth in preceding portions of the administrative record.)

87. Letter dated November 1, 1982 from Jack J. Coe, Department of Water Resources, to Gerald L. Moore, President, Imperial Irrigation District Board of Directors.

88. Memo dated November 9, 1982 from Michael A. Campos, State Water Resources Control Board, to Ray Walsh, Chief, Division of Water Rights. (Attachments)

89. Memo dated November 12, 1982 from William R. Attwater, State Water Resources Control Board, to Ray Walsh, Chief, Division of Water Rights.

90. Memo dated November 17, 1982 from Maureen (Marche) to Ray Walsh, State Water Resources Control Board.

Item	Document
91.	Memo dated November 17, 1982 from William R. Attwater, Chief Counsel, to Board Members, State Water Resources Control Board, regarding impropriety of ex parte contacts with Imperial Irrigation District.
92.	Letter dated November 18, 1982 from David L. Osias, to Carla M. Bard, chairwoman, State Water Resources Control Board, renewing request for hearing on Elmore complaint.
93.	Letter dated November 26, 1982 from Raymond Walsh, Division of Water Rights, to David L. Osias.
94.	Memo dated November 23, 1982 from Chuck Rich to MLS et al. (Attachment)
95.	Letter dated November 26, 1982 from Raymond Walsh, Division of Water Rights, to Thomas J. Graff, Environmental Defense Fund.
96.	Letter dated November 26, 1982 from W. Czajkowski, to California State Water Resources Control Board, and California Department of Water Resources. (Attachments)
97.	Newspaper article, "Imperial Irrigation District Accused of Wasting Water", Sacramento Union, November 27, 1982.
98.	Contact Report dated November 30, 1982 from Charles Rich, State Water Resources Control Board, regarding discussion with David Overvold.
99.	Contact Report dated November 30, 1982 from Charles Rich regarding discussion with Jerald Summers.

Item	Document
100.	Letter dated November 30, 1982 from Raymond Walsh, Division of Water Rights, to Gerald L. Moore, President, Imperial Irrigation District Board of Directors.
101.	Letter dated December 7, 1982 from Gerald L. Moore, President, Imperial Irrigation District Board of Directors, to Raymond Walsh, Chief, Division of Water Rights.
102.	Letter dated December 21, 1982 from Gerald H. Meral, Department of Water Resources, to Bill Attwater, Chief Counsel, State Water Resources Control Board, regarding payments for water salvaged from Imperial Irrigation District. (Attachment)
103.	Colorado River Water Report dated December 29, 1982, Colorado River Board of California.
104.	Letter dated December 31, 1982 from Ronald B. Robie, Department of Water Resources, to Gerald L. Moore, President, Imperial Irrigation District Board of Directors.
105.	Memo dated January 6, 1983 from Michael A. Campos, State Water Resources Control Board, to Carole A. Onorato, State Water Resources Control Board.
106.	Memo dated January 6, 1983 from William R. Attwater, Chief Counsel, State Water Resources Control Board, to Jim Markle, State Water Resources Control Board. (Attachment newspaper article discussing lawsuit against IID by the Torres-Martinez Band of Indians.)
107.	Letter dated January 7, 1983 from Thomas J. Graff, Environmental Defense Fund, to William Attwater, State Water Resources Control Board.

Item	Document
108.	Memo dated February 9, 1983 from Daniel N. Frink, Staff Counsel, State Water Resources Control Board, to James T. Markle, Staff Counsel, State Water Resources Control Board.
109.	Letter dated March 22, 1983 from Raymond J. Coughland, Jr., Assistant U. S. Attorney, to Dan Frink Division of Water Rights. (Attachment, Complaint for Damages filed by Torres-Martinez Band of Mission Indians.)
110.	Letter dated May 3, 1983 from David L. Osias to Carole Onorato, State Water Resources Control Board, renewing request for SWRCB hearing regarding Imperial Irrigation District.
111.	Letter dated May 6, 1983 from John R. Benson, President, Imperial Irrigation District Board of Directors to Howard Easton, Acting Director, Department of Water Resources, requesting that Department withdraw its report from the State Water Resources Control Board.
112.	Letter dated May 24, 1983 from Raymond Walsh, Division of Water Rights, to David L. Osias.
113.	Letter dated May 27, 1983 from Lowell F. Sutherland to Water Resources Control Board.
114.	Letter dated May 31, 1983 from D. Chapin, California Waterfowl Association, to Ray Walsh, State Water Resources Control Board, requesting hearing regarding Imperial Irrigation District.
115.	Letter dated June 1, 1983 from H. H. Eastin, Department of Water Resources, to John R. Benson, President, Imperial Irrigation District Board of Directors.

Item	Document
116.	Letter dated June 14, 1983 from Kathryn L. Tobin to Carole Onorato, Chairwoman, State Water Resources Control Board, requesting hearing regarding use of water in Imperial Irrigation District. (Attachments)
117.	Letter dated June 7, 1983 from Nicholas C. Arguimbau, Citizens for a Better Environment, to Carole Onorato, Chair, and Fellow Board Members, State Water Resources Control Board.
118.	Letter dated June 28, 1983 from Raymond Walsh, Division of Water Rights, to Nicholas C. Arguimbau, Citizens for a Better Environment.
119.	Letter dated June 21, 1983 from Harold Kelso Hunt, II, to Carole Onorato, Chairwoman, State Water Resources Control Board.
120.	Letter dated June 30, 1983 from George Gorman, Environmental Defense Fund to Mark Stretars, State Water Resources Control Board. (Attachment)
121.	Statement of the Environmental Defense Fund dated July 6, 1983, In The Matter of Referral by the Department of Water Resources for Hearing by the State Water Resources Control Board on Alleged Misuse of Water by Imperial Irrigation District.
122.	Letter dated July 8, 1983 from Raymond Walsh, Division of Water Rights, to Harold Kelso Hunt, II.
123.	Preliminary Hearing Notice dated July 11, 1983 issued by the State Water Resources Control Board, hearing subject: Complaint Alleging Waste and Unreasonable Use of Water by Imperial Irrigation District. Notice refers to prehearing conference.

Item	Document
124.	Letter dated July 13, 1983 from Thomas J. Graff, Environmental Defense Fund to Raymond Walsh, State Water Resources Control Board, regarding participation in hearing.
125.	Letter dated July 14, 1983 from R. L. Knox, Jr., to State Water Resources Control Board requesting copy of letter and statement presented at June 22, 1983 workshop.
126.	Letter dated July 14, 1983 from William I. DuBois, California Farm Bureau Federation, to Raymond Walsh, State Water Resources Control Board.
127.	Letter dated July 14, 1983 from James Watte, Imperial Irrigation District Water Conservation Advisory Board, to State Water Resources Control Board, regarding participation in State Water Resources Control Board hearing.
128.	Letter dated July 15, 1983 from David L. Osias to Raymond Walsh, State Water Resources Control Board, concerning participation in State Water Resources Control Board hearing.
129.	Letter dated July 19, 1983 from Lowell O. Weeks, Coachella Valley Water District, to Raymond Walsh, State Water Resources Control Board, concerning participation in State Water Resources Control Board hearing.
130.	Letter dated July 19, 1983 from Myron B. Holburt, Colorado River Board of California, to Raymond Walsh, State Water Resources Control Board, concerning participation in State Water Resources Control Board hearing.

Item	Document
131.	Letter July 20, 1983 from R. L. Knox, Jr., to State Water Resources Control Board, concerning participation in State Water Resources Control Board hearing.
132.	Letter dated July 22, 1983 from Lowell F. Sutherland to Raymond Walsh, State Water Resources Control Board, regarding participation in State Water Resources Control Board hearing.
133.	Declaration of Service by Mail dated July 25, 1983 signed by Sally Joan Lake.
134.	Letter dated July 29, 1983 from L. Keith Bieg, State Water Resources Control Board, to Larry E. Beck, Secretary, Imperial Irrigation District Board of Directors.
135.	Letter dated August 1, 1983 from N. W. Plummer, Bureau of Reclamation, to Raymond Walsh, State Water Resources Control Board.
136.	Letter dated August 3, 1983 from Kay Rolland to Bill Attwater, State Water Resources Control Board.
137.	Letter dated August 3, 1983 from David N. Kennedy, Department of Water Resources, to John Benson, President, Imperial Irrigation District Board of Directors.
138.	Letter dated August 8, 1983 from Gloria Duncan, Marin Conservation League, to Carole Onorato, Chairman, and Fellow Board Members, State Water Resources Control Board.
139.	Letter dated August 9, 1983 from Patricia A. Stanley to Raymond Walsh, State Water Resources Control Board.

Item	Document
140.	Letter dated August 9, 1983 from Daniel N. Frink, State Water Resources Control Board, to David L. Osias.
141.	Letter dated August 9, 1983 from Daniel N. Frink, State Water Resources Control Board, to Lowell F. Sutherland.
142.	Letter dated August 9, 1983 from Carole A. Onorato, Chairwoman, State Water Resources Control Board, to Myron B. Holburt, Colorado River Board of California.
143.	Memo dated August 16, 1983 from Ray Dunham, State Water Resources Control Board, to Fred A. Worthley, Jr., Department of Fish and Game.
144.	Water Right Hearing Notice dated August 23, 1983. Hearing subject: Alleged waste and unreasonable use of water by Imperial Irrigation District. Attachments include mailing list, information concerning participation in hearing, and staff summary for hearing. Also attached is a Declaration of Service by Mail dated August 23, 1983 signed by Sally Joan Lake.
145.	Letter dated August 25, 1983 from J. R. Wilson, Imperial Irrigation District, to L. Keith Bieg, State Water Resources Control Board.
146.	Notice of Intent to Appear dated August 27, 1983 from Boyd L. Thomas, Salton Sea Properties Association.
147.	Memo dated September 1, 1983 from Clint Whitney, State Water Resources Control Board, to Cabinet Section, Office of the Governor.
148.	Contact Report dated September 2, 1983 from Ray Dunham, State Water Resources Control Board.

Item	Document
149.	Letter dated September 6, 1983 from Dan Chapin, California Waterfowl Association to Ray Dunham, State Water Resources Control Board.
150.	Contact Report dated September 8, 1983 from Ray Dunham, State Water Resources Control Board.
151.	Letter dated September 8, 1983 from William R. Attwater, State Water Resources Control Board, to Paul D. Engstrand.
152.	Letter dated September 9, 1983 from Reginald L. Knox to Dan Frink, State Water Resources Control Board.
153.	Letter dated September 9, 1983 from Ron Ackert, Salton Sea Fish and Wildlife Club, to Lloy Johnson, State Water Resources Control Board.
154.	Affidavit of Don Cox requesting issuance of subpoenas dated September 12, 1983.
155.	Letter dated September 9, 1983 from Reginald L. Knox to Dan Frink, State Water Resources Control Board.
156.	Letter dated September 9, 1983 from David L. Osias to Dan Frink, State Water Resources Control Board.
157.	Memo dated September 12, 1983 from Dennis B. Underwood, Colorado River Board of California, to Members, Colorado River Board of California Technical Advisors.
158.	Letter dated September 13, 1983 from Roy D. Gear to Raymond Walsh, State Water Resources Control Board. (Attachment: Notice of Intent to Appear.)

Item	Document
159.	Letter dated September 13, 1983 from Daniel N. Frink, State Water Resources Control Board, to David L. Osias. (Attachment: Subpoena to Tom Waggoner.)
160.	Notice of Intent to Appear dated September 14, 1983 from David L. Osias.
161.	Letter dated September 14, 1983 from Thomas J. Graff, Environmental Defense Fund to Raymond Walsh, State Water Resources Control Board. (Attachment: Notice of Intent to Appear dated 9-14-83.)
162.	Notice of Intent to Appear dated September 14, 1983, signed by D. Chapin.
163.	Letter dated September 14, 1983 from Lowell O. Weeks, Coachella Valley Water District, to Raymond Walsh, State Water Resources Control Board. (Attachment: Notice of Intent to Appear.)
164.	Letter dated September 14, 1983 from Lowell F. Sutherland to Raymond Walsh, State Water Resources Control Board.
165.	Notice of Intent to Appear dated September 14, 1983 signed by Lowell F. Sutherland.
166.	Notice of Intent to Appear by Imperial Irrigation District, dated September 14, 1983.
167.	Proof of Service dated September 14, 1983 signed by Sharon Hay.
168.	Letter dated September 14, 1983 from Victor E. Gleason, Metropolitan Water District of Southern California, to Raymond Walsh, State Water Resources Control Board.
169.	Declaration of Service by Mail dated September 14, 1983 signed by Richard A. Rhone.

Item	Document
170.	Memorandum dated September 14, 1983 from John R. Kramer, Department of Water Resources to Raymond Walsh, State Water Resources Control Board. (Attachment: Notice of Intent to Appear.)
171.	Letter dated September 15, 1983 from Daniel N. Frink, State Water Resources Control Board to Reginald L. Knox. (Attachment: three subpoenas.)
172.	Letter dated September 15, 1983 from Donald H. Cox to Keith Bieg (State Water Resources Control Board). (Attachment: Notice of Intent to Appear.)
173.	Letter dated September 15, 1983 from Paul D. Engstrand to William R. Attwater, State Water Resources Control Board.
174.	Memorandum dated September 16, 1983 from Myron B. Holburt, Colorado River Board of California, to Carole A. Onorato, Chairwoman, State Water Resources Control Board. (Attachment: Notice of Intent to Appear.)
175.	Letter dated September 16, 1983 from Thomas J. Graff, Environmental Defense Fund, to Carole Onorato, Chairwoman, State Water Resources Control Board.
176.	Letter dated September 19, 1983 from L. Keith Bieg, State Water Resources Control Board, to Ron Ackert, Salton Sea Fish and Wildlife Club.
177.	Letter dated September 19, 1983 from L. Keith Bieg to El Centro Public Library.
178.	Letter dated September 19, 1983 from Victor E. Gleason, Metropolitan Water District of Southern California, to Daniel N. Frink, State Water Resources Control Board.

Item	Document
179.	Letter dated October 4, 1983 from David L. Osias to Reginald L. Knox.
180.	Letter dated October 5, 1983 from David L. Osias to N. W. Plummer, U. S. Bureau of Reclamation.
181.	Letter dated October 6, 1983 from L. Keith Bieg, State Water Resources Control Board, to Larry E. Beck, Imperial Irrigation District.
182.	Letter dated October 6, 1983 from L. Keith Bieg, State Water Resources Control Board, to parties to Exchange Information to Hearing.
183.	Letter dated October 12, 1983 from Larry Beck, Imperial Irrigation District, to L. Keith Bieg, State Water Resources Control Board.
184.	Letter received on October 12, 1983 from Ron Ackert, Salton Sea Fish and Wildlife Club, to L. Ray Dunham, State Water Resources Control Board.
185.	Letter dated October 12, 1983 from Tom Levy, Coachella Valley Water District, to Raymond Walsh, State Water Resources Control Board. (Attachment: Graph.)
186.	Letter dated October 13, 1983 from R. L. Knox to Raymond Walsh, State Water Resources Control Board. (Attachment: Table of Powerplant capacity.)
187.	Letter dated October 19, 1983 from Brian E. Smith, Department of Water Resources, to Ron Ackert, Salton Sea Fish and Wildlife Club.
188.	Memorandum dated October 20, 1983 from Ray Dunham, State Water Resources Control Board to Bruce Eliason, Department of Fish and Game.

Item	Document
189.	Letter dated October 25, 1983 from William E. Tippets, Department of Parks and Recreation, to L. Ray Dunham, State Water Resources Control Board.
190.	Letter dated October 26, 1983 from Daniel N. Frink, State Water Resources Control Board, to Cliff Hurley.
191.	Letter dated October 31, 1983 from Roy D. Gear, U.S. Bureau of Reclamation, to David L. Osias.
192.	Letter dated October 31, 1983 from Daniel N. Frink, State Water Resources Control Board, to Victor Gleason, Metropolitan Water District of Southern California.
193.	Memorandum dated November 3, 1983 from Ray Dunham, State Water Resources Control Board, to William E. Tippets, Department of Parks and Recreation.
194.	Supplemental Hearing Notice dated November 10, 1983.
195.	Letter dated November 15, 1983 from E. Ross Deter, California Energy Commission to Ray Dunham, State Water Resources Control Board (Attachment: Memorandum of Geothermal Development in Imperial Valley dated November 1, 1983.)
196.	Notice of Intent to Appear received on November 18, 1983 from Clifton Hurley.

Item	Document
197.	Letter dated November 22, 1983 from Victor E. Gleason, Metropolitan Water District of Southern California, to Raymond Walsh, State Water Resources Control Board. (Attachments: (1) Response of the Metropolitan Water District of Southern California Regarding the Adequacy of Its Water Supply and (2) Excerpts from Department of Water Resources Bulletin 132-82.)
198.	Letter dated December 1, 1983 from Professor John S. Stephens, Occidental College to Ray Walsh, State Water Resources Control Board.
199.	Letter dated December 5, 1983 from David L. Osias to Daniel N. Frink, State Water Resources Control Board.
200.	Letter dated December 7, 1983 from Daniel N. Frink, State Water Resources Control Board to David L. Osias.
201.	Letter dated December 7, 1983 from David L. Osias to Daniel N. Frink, State Water Resources Control Board. (Attachment: Subpoena of Tom Waggoner with proof of service.)
202.	Memorandum dated December 8, 1983 from E. Ross Deter, California Energy Commission, to Falah Aljibury, State Water Resources Control Board.
203.	Letter dated December 21, 1983 from David L. Osias to Raymond Walsh, State Water Resources Control Board.
204.	Letter dated December 23, 1983 from James L. Welsh to L. Ray Dunham, State Water Resources Control Board. (Attachment: crop data on Imperial Irrigation District.)

Item	Document

205. Letter dated December 28, 1983 from David L. Osias to Raymond Walsh, State Water Resources Control Board.

206. Memorandum from Daniel N. Frink, State Water Resources Control Board, to Keith Bieg, State Water Resources Control Board. (Attachment: Papers submitted by Cliff Hurley.)

207. Letter dated December 30, 1983 from Gordon W. Duffy, Secretary of Environmental Affairs to William Thomas Crawford. (Attachment: Incoming letter and draft response.)

208. Letter dated January 4, 1984 from Ginger McNees, Secretary to Lowell F. Sutherland, to L. Keith Bieg, State Water Resources Control Board. (Attachments: (1) Plaintiff's Exhibits 403-423, inclusive, from *Arizona v. California,* (2) Pages 72-76 of Gookin Report of December 9, 1978, (3) Gookin memorandum of March 27, 1982 to Lowell F. Sutherland.)

209. Letter dated January 6, 1984 from L. Keith Bieg, State Water Resources Control Board, to participants in IID hearing.

210. Letter dated January 12, 1984 from L. Keith Bieg, State Water Resources Control Board, to David L. Osias concerning proper numbers for Elmore Exhibits at State Water Resources Control Board hearing.

211. Letter dated January 12, 1984 from L. Keith Bieg to participants in IID hearing concerning submission of legal briefs and closing statements.

Item	Document
212.	Letter dated January 18, 1984 from Lowell F. Sutherland to Daniel N. Frink, State Water Resources Control Board. (Attachment: memorandum of interim decision in *Anderson v. IID.*)
213.	Letter dated February 10, 1984 from Gina M. Germani to Keith Bieg, State Water Resources Control Board.
214.	Letter dated February 14, 1984 from David L. Osias to L. Keith Bieg, State Water Resources Control Board.
215.	Letter dated February 21, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board, concerning legal brief and closing argument of the Elmores.
216.	Chronology of selected newspaper accounts of Imperial/Metropolitan Water Conservation Program, provided by Dennis B. Underwood, Colorado River Board of California. (Attachment: 13 newspaper articles.)
217.	Memo dated March 30, 1984 from D. R. Beringer, State Water Resources Control Board, to Ray Walsh, L. Keith Bieg, Dan Frink, Chuck Rich, and Ray Dunham, State Water Resources Control Board staff members.
218.	Memo dated April 2, 1984 from Raymond Walsh, State Water Resources Control Board, to Walt G. Pettit regarding IID schedule.
219.	Memo dated April 9, 1984 from Raymond Walsh, State Water Resources Control Board, to Walt Pettit, State Water Resources Control Board, regarding IID schedule.

Item	Document
220.	Letter dated April 13, 1984 from Ray Dunham, State Water Resources Control Board, to G. Bryant Smith, U. S. Geological Survey.
221.	Memo dated April 20, 1984 from Raymond Walsh, State Water Resources Control Board, to Michael A. Campos and State Water Resources Control Board Board Members.
222.	Imperial Irrigation District Alleged Waste and Unreasonable Use of Water, Staff Analysis of Record, State Water Resources Control Board, Division of Water Rights, dated April 26, 1984.
223.	Letter received on May 17, 1984 from Ron Ackert, Salton Sea Fish and Wildlife Club, to L. Keith Bieg, State Water Resources Control Board.
224.	Memo to files dated May 21, 1984 from Ray Dunham, State Water Resources Control Board, regarding records of Salton Sea water level and inflow.
225.	Letter dated May 24, 1984 from L. Keith Bieg to Ron Ackert, Salton Sea Fish and Wildlife Club.
226.	Letter dated June 7, 1984 from Ben Yellen, M. D., to California Water Resources Control Board.
227.	Letter dated June 7, 1984 from Raymond Walsh, State Water Resources Control Board, to Interested Parties, regarding review and consideration of proposed decision.
228.	Letter dated June 8, 1984 from Dorothy Green, Working Alliance to Equalize Rates, to Water Resources Control Board.
229.	Letter dated June 9, 1984 from William Czajkowski to California State Water Resources Control Board.

Item	Document
230.	Letter dated June 14, 1984 from John W. Krautkraemer, Environmental Defense Fund, to Carole A. Onorato, Chairwoman and Members, State Water Resources Control Board, regarding proposed decision.
231.	Letter dated June 14, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board, regarding comments on proposed order.
232.	Letter dated June 15, 1984 from Warren J. Abbott, Metropolitan Water District of Southern California, to Raymond Walsh, State Water Resources Control Board, regarding Imperial Irrigation District draft water rights decision.
233.	Motion of Imperial Irrigation District requesting deferral of consideration of proposed decision, June 15, 1984.
234.	Letter dated June 18, 1984 from Lowell F. Sutherland to Paul Engstrand. (Attachments: Declaration of Dorothy Newell, Leo R. Newell, Mildred Bowman, Hubert B. Baker, Marie P. Brannon, Boyd F. Thomas, John Gustafson, and Helen Burns.)
235.	Letter dated June 18, 1984 from Professor Larry C. Oglesby, Pomona College, to State Water Resources Control Board.
236.	Letter dated June 18, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board, regarding Elmore response to submission of Metropolitan Water District.
237.	Letter dated June 19, 1984 from Vernon E. Valantine, Colorado River Board of California to Raymond Walsh, State Water Resources Control Board, regarding comments on draft decision.

Item	Document
238.	Letter dated June 19, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board, regarding Elmore opposition to IID motion for deferral of consideration of proposed decision.
239.	Supplemental comments by Imperial Irrigation District regarding draft water rights decision dated June 20, 1984.
240.	Letter dated June 20, 1984 from N. W. Plummer, U. S. Bureau of Reclamation, to Carole A. Onorato, Chairperson, State Water Resources Control Board.
241.	Letter dated June 20, 1984 from Victor E. Gleason, Metropolitan Water District of Southern California, to Raymond Walsh, State Water Resources Control Board.
242.	State Water Resources Control Board agenda item dated June 21, 1984 regarding proposed decision on the alleged waste and unreasonable use of water by the Imperial District in Imperial County.
243.	Letter dated June 21, 1984 from Ron Ackert, Salton Sea Fish and Wildlife Club, to Members of the Board regarding comments on the proposed decision. (Attachment: Salton Sea Bird Checklist.)
244.	Letter dated June 29, 1984 from Raymond Walsh, State Water Resources Control Board to Charles L. Shreves, Imperial Irrigation District regarding information to be submitted in progress report.
245.	Letter dated July 3, 1984 from W. Czajkowski.
246.	Letter dated July 3, 1984 from Carole A. Onorato, Chairwoman, State Water Resources Control Board, to Board of Directors, Imperial Irrigation District.

Item	Document

247. Letter dated July 3, 1984 from D. W. Sabiston, State Water Resources Control Board, to interested parties.

248. Memo dated July 7, 1984 from W. Czajkowski to State Water Resources Control Board.

249. Letter dated July 11, 1984 from Lawrence Hirsch to Ray Walsh, State Water Resources Control Board. (Attachments)

250. Letter dated July 13, 1984 from L. Keith Bieg, State Water Resources Control Board, to W. Czajkowski.

251. Letter dated July 18, 1984 from N. W. Plummer, U.S. Bureau of Reclamation, to Carole A. Onorato, Chairwoman, State Water Resources Control Board, regarding reconsideration of Decision 1600.

252. Letter dated July 19, 1984 from Victor E. Gleason, Metropolitan Water District of Southern California, to Raymond Walsh, State Water Resources Control Board, regarding petition for reconsideration of Decision 1600.

253. Petition and supporting points and authorities of the Metropolitan Water District of Southern California for reconsideration of Decision 1600, dated July 19, 1984.

254. Letter dated July 20, 1984 from Lawrence Hirsch (Long-Range Planning Committee, San Diego County Water Authority) to Ray Walsh, State Water Resources Control Board. (Attachments regarding interests of San Diego County Water Authority in State Water Resources Control Board proceedings considering Imperial Irrigation District.)

Item	Document
255.	Letter dated July 20, 1984 from Raymond Walsh, State Water Resources Control Board, to Charles L. Shreves, General Manager, Imperial Irrigation District.
256.	Memo dated July 20, 1984 from Dan Frink, State Water Resources Control Board, to Ray Walsh and Keith Bieg, State Water Resources Control Board.
257.	Appendix to Petition for Reconsideration by Imperial Irrigation District of Decision 1600, June 1984, dated July 19, 1984.
258.	Petition for Reconsideration by Imperial Irrigation District of Decision 1600, June 1984, and Points and Authorities dated July 23, 1984.
259.	Letter dated July 23, 1984 from George J. Berger to State Water Resources Control Board.
260.	Letter dated July 23, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board.
261.	Memo dated July 25, 1984 from Raymond Walsh, State Water Resources Control Board, to Walter G. Pettit, Michael A. Campos, and Board Members, concerning update on Imperial Irrigation District and petitions for reconsideration.
262.	Letter dated July 25, 1984 from Lawrence Hirsch to Ray Walsh, State Water Resources Control Board.
263.	Miscellaneous articles submitted by W. Czajkowski.
264.	Letter dated July 26, 1984 from Ray Walsh, State Water Resources Control Board, to Larry Hirsch.
265.	Letter dated July 31, 1984 from Carole A. Onorato, Chairwoman, State Water Resources Control Board, to N. W. Plummer, U. S. Bureau of Reclamation.

Item	Document
266.	Elmore opposition to petitions for reconsideration of Decision 1600 dated August 7, 1984.
267.	Letter dated August 9, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board.
268.	Letter dated August 10, 1984 from Charles L. Shreves, Imperial Irrigation District, to Raymond Walsh, State Water Resources Control Board. (Attachment: Memorandum of meeting August 8, 1984.)
269.	Letter dated August 8, 1984 from David L. Osias to William Attwater, State Water Resources Control Board.
270.	Memo dated August 17, 1984 from Walt Pettit, State Water Resources Control Board, to Ray Walsh, State Water Resources Control Board. (Attachment: correspondence and report received from William C. Craghill.)
271.	Letter dated August 21, 1984 from Tom Hamilton, Chairman, San Diego County Board of Supervisors, to Carole A. Onorato, Chairwoman, State Water Resources Control Board. (Attachment: Resolution of the San Diego County Board of Supervisors supporting efforts of the Metropolitan Water District to obtain a voluntary transfer of salvage water from the Imperial Irrigation District.)
272.	Memo dated August 21, 1984 from Raymond Walsh, State Water Resources Control Board, to Walt Pettit, Mike Campos, and Board Members.
273.	Memo dated August 30, 1984 from Lloy D. Johnson, State Water Resources Control Board, to Walt Pettit, Mike Campos, and Board Members.

Item	Document
274.	Letter dated September 1, 1984 from W. Czajkowski to State Water Resources Control Board.
275.	Letter dated September 4, 1984 from Kenneth K. Willis, State Water Resources Control Board, to William C. Craghill, Soil Science Products. (Attachment: newspaper clipping.)
276.	Miscellaneous correspondence submitted by W. Czajkowski.
277.	Letter dated September 4, 1984 from David L. Osias to Raymond Walsh, State Water Resources Control Board.
278.	Letter dated September 6, 1984 from D. W. Sabiston, State Water Resources Control Board, to interested parties concerning draft order on petitions for reconsideration.
279.	Letter dated September 13, 1984 from Kay Rolland to Raymond Walsh, State Water Resources Control Board. (Attachment: Article dated September 12, 1984 from Imperial Valley Press.)
280.	"Motion for Consideration of the U. S. Bureau of Reclamation Complicity in Water Misuse in Imperial Valley in California" submitted by W. Czajkowski, dated September 14, 1984.
281.	Letter dated September 16, 1984 from Dorothy Green to Carole Onorato, Chairperson, State Water Resources Control Board.
282.	Letter dated September 17, 1984 from N. W. Plummer, U. S. Bureau of Reclamation, to Carole A. Onorato, Chairwoman, State Water Resources Control Board.

Item	Document
283.	Letter dated September 19, 1984 from Myron B. Holbert, Metropolitan Water District of Southern California, to Carole Onorato, Chairwoman, State Water Resources Control Board.
284.	Letter dated September 19, 1984 from Lloyd Allen, President, Imperial Irrigation District, to State Water Resources Control Board.
285.	Letter dated September 19, 1984 from Raymond Walsh, State Water Resources Control Board, to Charles L. Shreves, Imperial Irrigation District.
286.	Agenda item, State Water Resources Control Board, Board Meeting, September 20, 1984, concerning proposed order on petitions for reconsideration of Decision 1600. (Attachment: mailing list.)
287.	Letter dated September 24, 1984, from D. W. Sabiston, State Water Resources Control Board, to interested parties.

PART II

HEARING TRANSCRIPT AND EXHIBITS

Item	Document
1.	*Reporters Transcript, Volumes I-VIII.*
2.	*State Water Resources Control Board Exhibits:*
	Exhibit 1: State Water Resources Control Board, Investigations and Complaints file, Imperial County 13-02 and all material contained therein. (See Part I of Administrative Record herein.)
	Exhibit 2: Water Quality Control Plan, West Colorado River Basin 7A, approved by the State Water Resources Control Board, April 17, 1975, as amended. (By reference.)*
	Exhibit 3: Department of Water Resources Bulletin No. 130, Hydrologic Data, all pertinent volumes and appendices for the period of published record. (By reference.)*
	Exhibit 4: U. S. Department of the Interior, Geological Survey, "Water Resources Data: California, Volume 1, Colorado River Basin, Southern Great Basin from Mexico Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River", Water Year 1981 and all appropriate predecessor publications. (By reference.)*

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* Exhibits by Reference Nos. 2-6 are documents published by governmental entities. Copies are not retained in the administrative record.

Exhibit 5: U. S. Department of Commerce, National Oceanic and Atmospheric Administration, Climatological Data for California, for the period of published record. (By reference.)*

Exhibit 6: Topographic maps published by the U. S. Geological Survey covering the area under consideration. (By reference.)*

Exhibit 7: U. S. Department of the Interior, Geological Survey, "Water Resources of Lower Colorado River — Salton Sea Area as of 1971, Summary Report", by C. C. McDonald and O. J. Loeltz. Professional Paper 486-A; 1976.

Exhibit 8: U. S. Department of the Interior, Geological Survey, "Hydrologic Regimen of Salton Sea, California", by Allen G. Hely, G. H. Hughes and Burdge Ireland. Professional Paper 486-C; 1966.

Exhibit 9: U. S. Department of the Interior, Geological Survey, "Lower Colorado River Water Supply — Its Magnitude and Distribution", by Allen G. Hely. Professional Paper 486-D; 1969.

Exhibit 10: U. S. Department of the Interior, Geological Survey, "Geohydrologic Reconnaissance of the Imperial Valley, California", by O. J. Loeltz, Burdge Ireland, J. H. Robison, and F. H. Olmsted. Professional Paper 486-K; 1975.

Exhibit 11: U. S. Department of the Interior, Federal Water Quality Administration, Pacific Southwest Region, "Salton Sea, California, Water Quality and Ecological Management Consideration", July 1970.

Exhibit 12: U. S. Department of the Interior, and the Resources Agency of California, Federal-State Feasibility Report, "Salton Sea Project, California", April 1974.

Exhibit 13: U. S. Department of the Interior, and the Resources Agency of California, "Draft Environmental Statement — Salton Sea Project, California", May 1974.

Exhibit 14: Interagency Task Force, "Report of Interagency Task Force on Increased Use of Colorado River Water", Richard E. Angeles, Chairman, November 1982.

Exhibit 15: Colorado River Board of California, "Identification and Evaluation of Federal, State, and Local Interests in Salton Sea, California", prepared by Arthur Swajian, Revised Edition, 1969.

3. *John Elmore:*

Exhibit 1: John Elmore: Impact of current ineffective IID conservation program. Ability to conserve tailwater/tailwater recovery systems.

Exhibit 2: Stephen Elmore: Impact of current ineffective IID conservation program. Ability to conserve tailwater/tailwater recovery systems.

Exhibit 3: Robert Krieger: Investigation of Salton Sea inflow attributable to the IID and water conservation opportunities available within the IID.

Exhibit 4: Roger Britt: Evaluation of success of and recommended improvements to existing IID tailwater conservation program.

Exhibit 6: Comparison of certain components of IID inflow to Salton Sea.

Exhibit 7: Video tape of Stephen Elmore's farm.

Exhibit 8: Economic Appendix to the Special Report on Water Conservation Opportunities, Imperial Irrigation District.

Exhibit 9: Memorandum dated April 2, 1983 to Chief, Division of Planning Technical Services, E & R Center, Attention: 0-720.

Exhibit 10: Memorandum dated April 23, 1983 from David Overvold to Files re Trip Report.

Exhibit 11: Letter dated July 16, 1982, from David P. Overvold to Mr. J. R. Wilson.

Exhibit 12: Part 6, Appendix to Special Report on Farm Management Analysis.

Exhibit 13: Water Conservation Opportunities, Imperial Irrigation District, November 3, 1982.

Exhibit 14: November 14, 1983, Comments on "IID Water Conservation Study for Ray's December 16 Speech", from Dave Overvold.

Exhibit 15: Memorandum dated February 17, 1982, from Team Leader, Dave Overvold, to IID Planning Team Members.

Exhibit 16: May 17, 1982 from Ina B. Liebespeck to Regional Planning Officer.

Exhibit 17: Part G of USBR Draft Report, November 1983.

Exhibit 18: Water Conservation Opportunities, Imperial Irrigation District, California, Minutes of April 12, 1982 Inhouse Planning Team Meeting.

Exhibit 19: Water Conservation Opportunities, Imperial Irrigation District, California, Minutes of May 19, 1983 Inhouse Planning Team Meeting.

Exhibit 20: Water Conservation Opportunities, Imperial Irrigation District, California, Minutes of June 2, 1983 Inhouse Planning Team Meeting.

Exhibit 21: Letter dated August 24, 1979 from R. F. Carter, Imperial Irrigation District.

Exhibit 22: Secretary's Minutes, Water Conservation Advisory Board, Thursday, May 14, 1982.

Exhibit 23: Secretary's Minutes, Water Conservation Advisory Board, Thursday, July 9, 1981.

Exhibit 24: Secretary's Minutes, Water Conservation Advisory Board, April 15, 1982.

Exhibit 25: Inter-office Memorandum dated October 27, 1982 to Mr. J. R. Wilson.

Exhibit 26: Letter dated September 17, 1982 from Boyle Engineering to Donald Twogood. (With attachments, Imperial Valley tailwater reuse program work plan.)

Exhibit 27: Inter-office Memorandum dated August 13, 1982 to General Manager.

Exhibit 28: Water Conservation Opportunities, Imperial Irrigation District, California, Minutes of February 18, 1982 Inhouse Planning Team Meeting.

Exhibit 29: Inter-office Memorandum dated January 5, 1982 to Mr. J. R. Wilson.

Exhibit 30: Present and Potential Water Conservation, February 16, 1983.

Exhibit 31: Letter dated December 17, 1982 from Douglas G. Welch, Jr., Imperial Irrigation District.

Exhibit 32: Index and pictures of 19 slides of Tailwater Boxes.

Exhibit 33: USDA-IID, Cooperative Study 1976-1981.

Exhibit 34: Holtville-Calipatria Trial, October 1981.

Exhibit 35: Pictures of slides shown at September 1983 hearing. (48 pictures.)

Exhibit 36: Inter-office Memorandum dated September 3, 1983 from D. A. Twogood to Mr. John Benson.

4. *Department of Water Resources:*

Opening Statement

Exhibit 1: "Investigation Under California Water Code Section 275 of Use of Water by Imperial Irrigation District", December 1981. (Referred to in the testimony as the "Department's Report".)

Exhibit 2: Statement of Qualifications of Clyde B. Arnold.

Exhibit 3: Discussion of SWRCB staff issues in Department's Report.

Exhibit 4: Letter dated August 6, 1980 from Ronald B. Robie to Tony Gallegos.

Exhibit 5: Memorandum dated August 6, 1980 from Ronald B. Robie to Carla Bard and letter dated August 6, 1980 from Ronald B. Robie to John Elmore.

Exhibit 6: Letter dated April 10, 1980 from Ronald B. Robie to Larry A. Edwards.

Exhibit 7: Letter dated May 14, 1980 from David Osias to Ronald B. Robie.

Exhibit 8: Memorandum dated September 25, 1981 from Gregory Poseley to Gabriel Valenzuela, et al.

Exhibit 9: Letter dated December 8, 1981 from Jack J. Coe to Leroy E. Edwards.

Exhibit 10: Letter dated December 8, 1981 from Jack Coe to Farmers in the Imperial Irrigation District.

Exhibit 11: Statement of Qualifications of Norman A. MacGillivray.

Exhibit 12: Memorandum dated October 3, 1980 from Frederick Stumpf (Norman A. MacGillivray) to Robert Smith, Southern District.

Exhibit 13: Memorandum dated February 3, 1983 from N. A. MacGillivrary to Gregory Posley. (With attachment Kaddah and Rhodes, "Salt and Water Balance in Imperial Valley".)

Exhibit 14: Donovan and Meek, "Alfalfa Responses to Irrigation Treatment and Environment".

Exhibit 15: Memorandum dated July 7, 1983 from N. A. MacGillivray to John Tenero.

Exhibit 16: Southern District Technical Information Record No. 1489-2531-1 by David A. Inouye, "Preliminary Evaluation of Evapotranspiration in the Imperial Valley".

Exhibit 17: Testimony of Clyde B. Arnold on the Department of Water Resources Investigation of Use of Water by the Imperial Irrigation District.

Exhibit 18: Testimony of Norman A. MacGillivray on the Department of Water Resources Investigation of Use of Water by the Imperial Irrigation District.

5. *Imperial Irrigation District:*

Exhibit 1: Report on Statewide Water Perspective.

Exhibit 2: Report on Water Conservation Opportunities.

Exhibit 3: Report on Water Operations.

Exhibit 4: Report on Water Conservation Program.

Exhibit 5: Report on Water Use Efficiency Comparisons.

Exhibit 6: Appendix for State Water Resources Control Board Hearing.

Exhibit 7: Summary of Report Prepared by Hess Geotechnical Corporation entitled, "A Review of the Department of Water Resources Investigation in Response to the John Elmore Request for Investigation of Water Use Practices in the Imperial Irrigation District".

Exhibit 8: Waste Water Tickets.

Exhibit 9: Declaration of Robert F. Carter dated March 1, 1982. (With exhibits.)

Exhibit 10: Packet of correpondence (A through H).

Exhibit 11: Graph showing Salton Sea elevation and input quantities to sea.

Exhibit 12: Inter-office Memorandum to Division Supts., Watermaster, and Mr. Twogood re Water Conservation Program — Checking Waste Water.

Exhibit 13: Lease Agreements:

A. Lease agreement with John Jameson Elmore for 442 acres.

B. Lease agreement with John Jameson Elmore for 70 acres.

Exhibit 14: Map of Salton Sea area (showing general area of the Elmore property).

Exhibit 15: Recorder Data of Canal Spills.

Exhibit 16: Supplemental Data on Water Operations, Bookman-Edmonston Engineering, December 1983.

Exhibit 17: Table 1 — Water Budget Accounting, Water Conservation Opportunities, Imperial Irrigation District.

Exhibit 18: Imperial Irrigation District on Farm Requirements Acre Foot Per Acre.

Exhibit 19: P. 162 — Sutherland & Gerber Figures.

Exhibit 20: P. 111 of Exhibit A, Salton Sea Property Owners Exhibit 1, Salton by Marina Inc. Suit — Civil No. 76-1095-T.

Exhibit 21: USBR All-American Canal Inspection.

Exhibit 22: Estimates of Diversions for All-American Canal by Months.

Exhibit 23: (Revised) Table 1, Estimated District Water Budget Based on the Distribution of Water Delivered at Drop No. 1, Water Conservation Opportunities, Imperial Irrigation District, California.

Exhibit 24: Public Law 93-320, 93rd Congress, H.R. 12165, June 23, 1974.

Exhibit 25: U. S. Department of the Interior, Bureau of Reclamation, Contract No. 8-07-30-W0007, Rev. Boulder City, January 20, 1978.

Exhibit 26: Contract: "This Contract, made this 8th day of July 1977 between the Metropolitan Water District . . . ; and Coachella Valley County Water District".

Exhibit 27: Letter dated February 25, 1983 from James U. McDaniel to Jack Coe.

6. *California Waterfowl Association:*

Exhibit 1: Testimony of the California Waterfowl Association at the State Water Resources Control Board's Imperial Irrigation District Hearing on September 27, 28, and 29, 1983.

Exhibit 2: Senate Concurrent Resolution No. 28.

Exhibit 3: Current and Projected Salton Sea water surface elevation, surface area and water salinity.

Exhibit 4: Map of Salton Sea and surrounding area.

7. *Colorado River Board of California:*

Exhibit 1: Statement of Myron B. Holburt, Chief Engineer, Colorado River Board of California.

8. *Environmental Defense Fund:* (Attorney: Thomas J. Graff)

Exhibit 1: Resume of Zack Willey.

Exhibit 2: Testimony of Zack Willey.

Exhibit 3: Trading Conservation Investments for Water: A Proposal for the Metropolitan Water District of Southern California to Obtain Additional Colorado River Water by Financing Water Conservation Investments for the Imperial Irrigation District.

Exhibit 4: Memorandum dated March 25, 1982 from Commissioner, U.S. Department of the Interior, Bureau of Reclamation, to Regional Director, Denver, Colorado.

9. *Coachella Valley Water District:*

   Exhibit 1: Resume of Thomas Edward Levy.

   Exhibit 2: Testimony of Tom Levy.

10. *Department of Fish and Game:*

    Exhibit 1: Qualifications of expert witnesses: Glenn Black and Jesus Garcia.

    Exhibit 2: Statement of Testimony to be given at State Water Resources Control Board hearing on September 27, 28, and 29, 1983 at El Centro.

11. *Salton Sea*
    Property Owners: (Attorney: Lowell F. Southerland)

    Exhibit 1: Affidavit of Lowell F. Southerland regarding:

    - The District's standards for the frequency of spills over the end of their canals.
    - The 1964 Water Conservation Program.
    - Spill Monitoring Program on various canals.
    - Misstatements by the District as to water use efficiency.

    (Documents A through L.)

    Exhibit 2: Affidavit of Lowell F. Southerland regarding the Deposition of James Luker.

    Exhibit 3: Affidavit of William Scudder Gookin.

    Exhibit 4: Resume of William Sudder Gookin, P. E.

Exhibit 5: Bibliography.

Exhibit 6: Diagram of Salton Sea inflow.

Exhibit 7: Discharge Below Drop 1.

Exhibit 8: Totals (Average of number of days checked and number of canal spills).

Exhibit 9: a. Central Arizona Project, Water Requirements and Water Costs, October 1983.

b. Water Charges, February 1981.

Exhibit 10: Five slides showing graphs of rainfall, All American Canal flows, Salinity of inflow to Salton Sea and from Mexico.

Exhibit 11: Imperial Irrigation District, Laboratory TDS Reports.

Exhibit 12: Leaching and Salinity Calculations 2 — map showing points of measurements.

Exhibit 13: Salton Sea Volume — Surface Area Calculations Results 2.

Exhibit 14: Salton Sea Volume — Surface Area Calculations Results 3.

Exhibit 15: Summary of District's Canal Spills (IID Exhibit #15).

Exhibit 16: Imperial Irrigation District figures (estimate of canal spills).

Exhibit 17: Table Showing Diversions into All-American Canal, Inflow to Salton Sea and other data. (Source — Imperial Irrigation District 1982 Water Report.)

Exhibit 18: Xerox copy of recorder printout of "Z Spill" dated January 19, 1981, GO. 18, T. 745 AM.

12. *U.S. Bureau of Reclamation:*

Exhibit 1: Water Conservation Opportunities. Imperial Irrigation District, California.

Exhibit 2: Table, Estimate for a Water Budget for the District.

13. *Imperial Irrigation District Water Conservation Advisory Board:*

Exhibit 1: Testimony by Donald H. Cox.

Exhibit 2: Farmer presentations by John Kubler and Larry Gilbert.

Exhibit 3: Short Professional History of Dr. Malek T. Kaddah.

Exhibit 4: Table 7, Summary Data, USDA-ARs 1977-1981.

Exhibit 5: Video Tape (evening session).

Exhibit 6: Breakdown of costs for Tailwater Recovery System (pump-back).

Exhibit 7: Tailwater Recovery System on 300 Acre Alfalfa Ranch, Estimated Costs of Portable System.

Exhibit 8: Supplemental Testimony by Donald H. Cox, Larry Gilbert, and John Kubler.

Exhibit 9: Slide presentation of on-farm water conservation program (22 slides).

Exhibit 10: Pictures of drawings & graphs:

a. Drawing showing delivery gate and flow through field to tailwater box.

b. Graph showing magnitude of tailwater flow from a cottonfield, Mayflow Canal, September 16, 1983.

c. Graph showing magnitude of tailwater flow from a cottonfield, Malva Canal, September 16, 1983.

d. Graph showing magnitude of tailwater flow from an alfalfa field, Pine Canal, August 30, 1983.

Exhibit 11: Copies of seven overhead slides regarding leaching (A through G).

Exhibit 12: "Salt and Water Balance in Imperial Valley, California", article by M. T. Kaddah and J. D. Rhoades.

Exhibit 13: Picture of Graph "Cotton in Furrows" showing irrigation time.

Exhibit 14: Inflow to Salton Sea, Imperial Irrigation District. Portion Percent of Drop #1.

Exhibit 15: Summary and Conclusions, Agricultural Water Conservation in California, with emphasis on the San Joaquin Valley.

Exhibit 16: Graph showing time vs. distance of tailwater movement, dated July 12, 1983.

Exhibit 17: Two graphs relating to Depth of Infiltration.

PART III

NON-EVIDENTIARY POLICY STATEMENTS AND REQUEST FOR OFFICIAL NOTICE

Item

1. Policy Statement of Imperial County Board of Supervisors entitled "Imperial County Testimony Before the State Water Resources Control Board Approved September 13, 1983".
2. Policy Statement of James Bucher, September 26, 1983.
3. Policy Statement of California Energy Commission entitled "Water Use in Imperial Valley", September 27, 1983 (signed by Ross Deter).
4. Statement of Metropolitan Water District of Southern California Regarding Proceedings Alleging Misuse of Water by Imperial Irrigation District, presented to the SWRCB in El Centro, September 27-29, 1983.
5. "Salton Sea Policy Statement Draft Proposal", Salton Sea Fish and Wildlife Club, September 28, 1983 (with attachment).
6. Request for Official Notice, letter from Victor E. Gleason of Metropolitan Water District to Raymond Walsh, Division of Water Rights, dated November 22, 1983 (with attachments).

PART IV

Legal Briefs and Closing Statements Submitted By February 29, 1984

Item

1. Memorandum of Points and Authorities on Behalf of Imperial Irrigation District, dated September 27, 1983.
2. Memorandum on behalf of Imperial Irrigation District showing that there is no misuse of water, dated January 24, 1984.
3. Closing Statement of the Metropolitan Water District of Southern California, dated February 16, 1984 (with cover letter).
4. Brief of Environmental Defense Fund, dated February 17, 1984 (with cover letter).
5. Elmore Brief, dated February 21, 1984.
6. Closing Statement of Department of Water Resources, dated February 21, 1984 (with cover letter).
7. Closing Statement of Department of Fish and Game, dated February 16, 1984 (with cover letter).
8. Closing Statement of Water Conservation Advisory Board, dated February 29, 1984.

PART V

State Water Resources Control Board Decision and Order Denying Petitions for Reconsideration

Item

1. State Water Resources Control Board Decision 1600, In the Matter of the Alleged Waste and Unreasonable Use of Water by Imperial Irrigation District, Decision Regarding Misuse of Water by Imperial Irrigation District, June 21, 1984.
2. State Water Resources Control Board Order WR 84-12, In the Matter of the Alleged Waste and Unreasonable Use of Water by Imperial Irrigation District, Order Affirming Decision 1600 and Denying Petitions for Reconsideration, September 20, 1984.

File 2620 (13-02)	State Water Resources Control Board
Folder 2L	Application No. IID Hearing
Item 12, Exh. 1	USBR Exh. 1
	For Identification 121383
	In Evidence 121483

Bureau of Reclamation
Lower Colorado Region
Hearing Testimony

California Water Resource Control Board
Hearing on "Alleged Waste and Unreasonable Use of Water By Imperial Irrigation District"
September 27-29, 1983
Imperial Irrigation District Auditorium
1284 Main Street
El Centro, California 92243

WATER CONSERVATION OPPORTUNITIES IMPERIAL IRRIGATION DISTRICT, CALIFORNIA

Information being provided in this testimony on the Imperial Irrigation District Water Conservation Special Study is preliminary and subject to review but does reflect the basis and results of the planning effort. An official report is in preparation and will be released and available to the public following technical and policy review and approval by the Bureau of Reclamation (Reclamation).

The Imperial Irrigation District's (District) irrigation service area of 1,062,290 acres is divided into the East Mesa, Imperial, Pilot Knob, and West Mesa Units as shown on the Frontispiece Map No. 212-300-474. Only the Imperial Unit has been developed and about 458,000 acres of the 694,400 acres in the unit are normally irrigated.

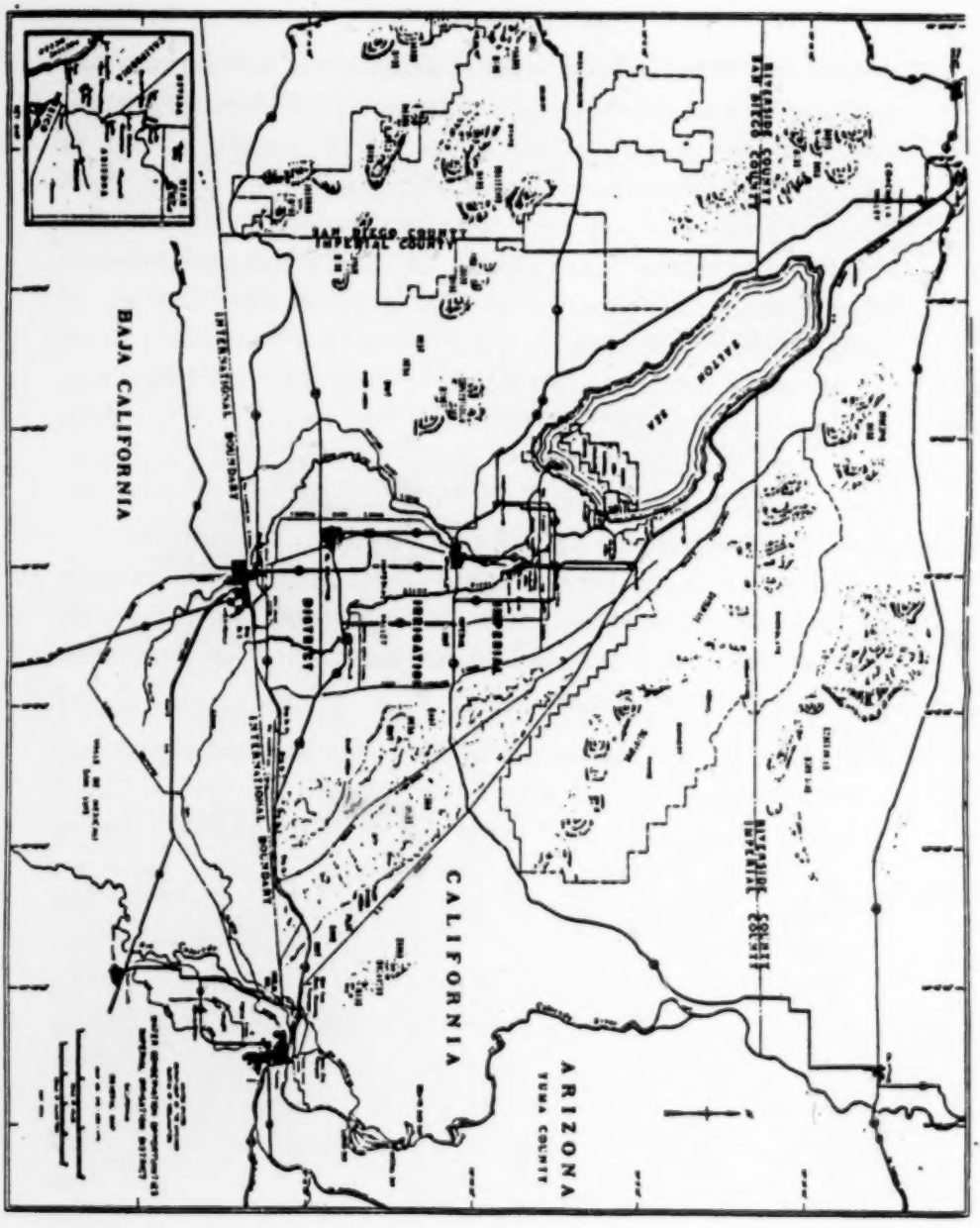
The District operates and maintains the Imperial Dam, the 80-mile All-American Canal, 1,625 miles of canals and laterals (approximately 840 miles have been concrete lined cooperatively by irrigators and the District), four small regulating reservoirs, Senator Wash Dam and Reservoir, and all associated diversion and control structures.

Before continuing into the discussion of the District Water Conservation Opportunities Special Study, a brief overview of the studies that were completed in 1980 and have been scheduled on the All-American Canal is appropriate.

All American Canal Relocation.

Potential for reducing seepage by concrete lining the All-American Canal has been recognized as a possible method of developing additional usable water.

The Colorado River Basin Salinity Control Act of 1974, Public Law 93-320, Title I, authorized the Bureau of Reclamation to construct a desalting plant near Yuma, Arizona, and to undertake studies to identify feasible measures that would provide adequate replacement water for the reject stream emanating from the plant. Another feature of Public Law 93-320 was the concrete lining of the Coachella Canal. This project was completed in 1981. By concrete lining 49 miles of the Coachella Canal, it was estimated that canal seepage could be reduced from 141,000 acre-feet to 9,000 acre-feet per year (Coachella Canal Unit, Definite Plan Report, June 1978). This is a 94 percent reduction.


BAJA CALIFORNIA
CALIFORNIA
ARIZONA
SAN DIEGO COUNTY
IMPERIAL COUNTY
YUMA COUNTY
INTERNATIONAL BOUNDARY
SALTON SEA

In 1980 the "Reject Stream Replacement" report was completed and released showing potential for water conservation by concrete lining the All-American Canal as well as other possible sources of replacement water. As a result of discussions and coordination with the District and the Colorado River Board of California and because of the potential benefits of this project, the Bureau of Reclamation recommended authorization be sought from Congress to study its feasibility. Feasibility study authority was included in S. 2443 in the 2nd Session of the 97th Congress, S. 622 in the first session of the 98th Congress, and eventually approved in Public Law 98-63, July 30, 1983 (Supplemental Appropriations Bill, H.R. 3069). Detailed studies leading to consideration of construction authorization from Congress are scheduled and funded as a fiscal year 1984 planning start entitled, "All-American Canal Relocation Study."

Currently, an estimated 90,000 acre-feet of water are lost annually from the 30 miles of the All-American Canal between Pilot Knob and Drop No. 4. Most of those losses result from seepage into the ground water where we anticipate that it flows southward into Mexico. The All-American Canal Relocation study will determine the feasibility of building a concrete-lined canal adjacent to the existing canal. The previous study concluded that lining the existing canal was impractical because the necessary water delivery interruptions would be unacceptable. An estimated 70,000 acre-feet of water would be saved each year. The estimated capital cost in October 1979 was $104 million which would be about $133 million using October 1983 prices.

The Colorado River Board of California, the Imperial Irrigation District, and the California Department of

Water Resources have all expressed interest in completing this study.

The tentative schedule for this study is:

Initiate Study	October 1983
Preliminary Findings Report	January 1984
Plan Formulation Working Document	September 1984
Regional Director's Planning Report/Draft Environmental Impact Statement	September 1985
PR/Final Environmental Statement to Congress	
Construction Authorization by Congress	
Construction Start	

Imperial Irrigation District Water Conservation Opportunities

The purpose of the special study was to identify areas of potential water savings in the District, determine whether future detailed studies were justified that could lead to recommendations for Reclamation project development, and identify other opportunities that the District and Irrigators could consider. Alternative structural and nonstructural water conservation measures needed to be evaluated considering existing District irrigation facilities, operations, and practices to determine potential for conserving water currently entering Salton Sea. Conserved water could be used to meet future water needs.

Approximately 2.7 million acre-feet of water are diverted to the District annually. The annual mean daily flow is about 4,000 cubic feet per second (cfs) but normal summertime flows are about 6,000 cfs. All District return flows (amounting to about 890,000 acre-feet per year)

eventually enter the saline Salton Sea. Table 1 itemizes components of an estimated District water budget which is a representative accounting of District-wide water conveyance and use for planning purposes, reflects conditions over the period 1977 to 1980, and is generally compatible with the data collected during the study. Any data prior to 1976 when the water conservation program began, was not considered representative to reflect future conditions. It was found that the total inflow at Drop No. 1 averaged 2,734,000 acre-feet per year ... total crop consumptive use was about 1,800,000 acre-feet per year ... and the unused 890,000 acre-feet per year flowed to the Salton Sea. So roughly two-thirds of the water diverted to the District is beneficially used by the crops. The other one-third winds up in the Salton Sea through either canal and lateral seepage ... canal and lateral spills ... farm tailwater ... or deep percolation (drainage).

Table 1

WATER BUDGET ACCOUNTING

Water Conservation Opportunities
Imperial Irrigation District

Item	Annual Flow (1,000 ac-ft)	Percent of Diversion	Percent of Farm Delivery
Inflow at Drop No 1	2,700	100	
Canal seepage	240	9	
Canal spills	80	3	
Farm delivery	2,400		100
Crop consumptive use[1]	1,800	67	76
Deep percolation and leaching[2]	240	8	10
Tailwater[2]	330	12	14
Return flow from diversions	890	33	
Total inflow to Salton Sea from Imperial Valley[3]	1,200		

[1] Consumptive use is the computed closure term in the budget.

[2] The breakdown between "deep percolation and leaching" and "tailwater" is estimated. The tailwater percentage is representative of data collected during the study.

[3] Includes an estimated 270,000 acre-feet of flow in the New and Alamo Rivers entering Imperial Valley from Mexico.

Approximately $988,000 have been expended for the 4-year special study which began in 1980 and was completed in 1983. Federal and non-Federal expenditures for the study are as follows:

Federal Funding	
Federal Activities	$725,000
Contracted District services to gather discharge measurement data	113,000
District inkind services to operate the demonstration onfarm management program	125,000
Other agency inkind services	25,000
Total	$988,000

Authorization and funding for detailed investigations have been recommended for those features exhibiting potential for water conservation. Feasibility study authority is under consideration by the 98th Congress in S. 622 which has been supported by the Imperial Irrigation District and Colorado River Board of California. Detailed investigations will determine if a recommendation should be made to Congress for Federal authorization and construction of any required facilities.

Problems and needs identified during the investigation are shown in Table 2.

Table 2

PROBLEMS AND NEEDS

Problems

- Colorado River flows are inadequate to meet agricultural and M&I needs in southern California.
- Elevation of the Salton Sea has historically fluctuated and has been rising. Extensive study has been conducted on methods to stabilize water levels and salinity. Agricultural lands, residential and recreational property, and wildlife refuges have been inundated by rising water levels. Water conservation may significantly affect water levels and salinity. Potential impacts on land use, wildlife habitat, fisheries, and recreation must be carefully evaluated. Tradeoffs will likely be necessary.
- Approximately 890,000 acre-feet of agricultural return flows from the District enter the Salton Sea annually where they mix with the highly saline water in the Sea and are not available for additional beneficial consumptive use.
- The travel time from the source of supply at Parker Dam to the District results in releases to the District (based on anticipated needs) that are sometimes either insufficient to meet actual needs or exceed needs to the extent that unused flows approximating 28,000 acre-feet are bypassed to Mexico annually.
- Spills to the drainage system and fluctuating deliveries to the growers result because of the difficulty in providing delivery system control capability over the 1,600-mile distribution system.
- Tailwater spills and deep percolation result from naturally fluctuating deliveries to fields occurring as the

extensive system is operated to assure full deliveries to crops.

- Significant capital expenditures will be necessary to accomplish lining of larger capacity canals and other structural methods of conserving water.
- Substantial and effective demonstration programs in and gradual use of system scheduling and other measures will be required to assure growers that a full water supply can be delivered while accomplishing water conservation.

Needs

- To make additional water available to meet future agricultural and M&I needs in southern California through water conservation.
- To identify practical measures with a high degree of confidence for measuring and yielding an annual increment of new water.
- To identify water users with the legal and financial capability to participate in a project.
- to deliver flows to the farmer at the time and in the amount needed.
- To order water for the District based upon actual rather than anticipated need so that release of unneeded water from Parker Dam will be minimized.
- To improve and develop information systems for growers on crop water requirements, timing for water application, and techniques for water application.
- To provide information and incentives to encourage onfarm water conservation.

The District has been active in sponsoring conservation activities. A summary of these activities is shown in Table 3.

Table 3

LOCAL CONSERVATION ACTIVITIES

Water Conservation Opportunities
Imperial Irrigation District

- Canal lining program — 840 miles have been lined through a voluntary District/landowner cost sharing program.
- Reservoir Regulation Program — four 500 acre-foot reservoirs have been constructed at main canal drops at a cost of about $1 million each. Up to 12 additional sites are being considered for development.
- Canal seepage recovery system — a system of collector drains and sump pumps has been installed along sections of the All-American and East Highline Canals to recover canal seepage.
- Selective system automation — a system of 23 remote-controlled gates and 17 float controlled gates has been installed on main canals to improve operational efficiency.
- Board of Directors conservation initiatives:

  1976 — A 13-point program for water conservation and system improvement was adopted.

  1977 — A 5-year cooperative irrigation efficiency study was initiated with the Brawley Research Center of the USDA.

  1979 — A Water Conservation Advisory Board composed of District farmers was created to advise Board of Directors on conservation matters.

  1980 — A 21-point program of more stringent conservation policies and procedures was adopted.

1980 — Water rate increase to fund expanded water conservation program was adopted.

1981 — A 2-year water management and conservation demonstration program was initiated and a water Conservation Supervisor and three technicians were hired to operate the progam.

1981 — The annual budget was increased for the canal lining program and for accelerated regulating reservoir construction.

A major effort initially in the study was to accumulate data using District-maintained records and install special field data collection equipment or devices which were installed and maintained by the District under contract or as inkind services. Table 4 outlines sources of data utilized in the study. Only preliminary analysis has been made of some of the data. A more detailed analysis of all the data will be made during the detailed studies.

A cooperative agreement was entered into between the Bureau of Reclamation (Reclamation) and the Imperial Irrigation District in September 1981. The agreement called for Reclamation to supply the technical assistance and equipment necessary to begin a 2-year demonstration program of irrigation scheduling on approximately 10,000 acres. Three neutron probes and 125 water level recorders were provided. The district provided the manpower and vehicles to run the program.

The 125 water level recorders were used to measure tailwater on over 170 fields totaling about 13,000 acres and deliveries using broad crested weirs on 20 fields. After measuring 1,035 irrigations totaling over 36,000 acre-feet . . . tailwater was found to average 14 percent. Irrigation scheduling was used to predict when to irrigate and how much to apply.

Another part of the flow measurement program was the collection of data on four groups of laterals. Forty-five recorders were installed to measure the inflows and outflows of 12 laterals serving 25,000 acres. During detailed studies, the measurements will allow computation of onfarm efficiencies and water use and provide the opportunity to approximate the proportions of tailwater flows and tile drain flows. These recorders have been removed after measuring flows for one year.

Table 4

SOURCES OF DATA

Water Conservation Opportunities
Imperial Irrigation District

Records maintained and provided by the District

- Main canal inflow and spill records
- Lateral inflow records
- Customer delivery records
- Canal design and alignment records

Recorder installations maintained by the District on contract

- Lateral inflow — 12 sites
- Lateral outflow — 15 sites
- Drain inflow — 6 sites
- Drain outflow — 15 sites

Field data collected by the District with inkind service

- Weekly neutron probe measurements on 15,000 acres
- Recorder measured field deliveries at 42 sites
- Recorder measured tailwater flows at 125 sites

Even though the irrigation system on the District was constructed in the early 1900's it operates as efficiently as neighboring irrigation projects. Numerical comparisons between irrigation district operations and efficiencies are extremely difficult due to the many variables that exist such as soil types, extent of conveyance system, age of system, source and amount of water right, climate and cropping patterns, field slopes, etc. However, after the drought in the West in 1977, Reclamation did develop a report (Report on the Water Conservation Opportunities Study) generally comparing a number of systems in the Western U.S. to display relative potentials for improving water use efficiency. Table 5 includes only three non-Indian and two Indian projects in the Lower Colorado Region. In relation to projects listed, District showed very well with a 70 percent efficiency and good potential for water conservation because return flow entered the Salton Sea and was not available for further beneficial consumptive use.

Table 5 — Project water use efficiencies — Continued

Study areas		State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
								Present	Estimated Potential	Gain
Upper Missouri Region — Reclamation										
UM01	Riverton Unit	WY	56,707	317,300	221,000	37,000	40,000	30	34	4
UM02	Lower Yellowstone Project	MT	44,822	333,400	284,000	56,200	83,000	14	19	5
UM03	Huntley Project	MT	24,806	132,600	104,200	20,300	41,000	21	31	10
UM04	Heart Mountain Irrigation District	WY	25,243	203,000	170,200	35,300	46,000	16	20	4
UM05	Chinook Division	MT	34,193	111,500	77,300	15,500	39,000	30	47	17
UM06	Malta Irrigation District	MT	36,356	120,000	83,600	10,500	40,000	30	45	15
UM07	Glasgow Irrigation District	MT	12,139	57,900	45,800	9,200	23,000	20	34	14
UM08	Greenfields Irrigation District	MT	72,034	261,500	190,000	37,000	101,000	27	44	17
UM09	Fort Shaw Irrigation District	MT	9,119	42,400	33,000	5,000	13,700	22	32	10
UM10	Buffalo Rapids Project	MT	20,429	82,000	60,000	12,000	25,000	26	38	12
UM11	Shoshone Irrigation District	WY	32,494	198,500	156,300	30,400	35,000	21	25	4
UM12	Deaver Irrigation District	WY	12,833	78,400	59,700	12,000	15,500	23	29	6
UM13	Willwood Irrigation District	WY	10,446	99,600	86,000	16,000	30,700	13	19	6
	Totals		391,621	2,038,100	1,571,100	296,400	532,900			

Table 5 — Project water use efficiencies — Continued

Study areas	State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
							Present	Estimated Potential	Gain
Lower Missouri Region — Reclamation									
LM02 North Platte Project	NE	216,691	903,100	480,600	18,000	178,000	46	58	12
LM03 Farwell Irrigation District	NE	40,741	98,006	57,265	10,265	29,700	41	59	18
LM04 Kansas-Bostwick Irrigation District	KS	29,784	74,288	41,943	3,943	18,000	43	57	14
LM05 Bostwick Irrigation District (NE)	NE	20,242	55,636	38,430	2,430	19,500	30	47	17
Totals		307,458	1,131,030	618,238	34,638	245,200			
Navajo Area — Indian Affairs									
B101 Fruitland Indian Irrigation Project	NM	2,905	21,000	17,049	136	2,470	18	21	3
B102 Hogback-Cudei Indian Irrigation Project	NM	7,108	132,000	122,333	275	41,720	7	10	3
B103 Fort Defiance Indian Irrigation Project	AZ	631	5,400	4,000	0	1,969	25	40	15
B104 Many Farms Indian Irrigation Project	AZ	559	4,000	2,600	0	950	35	45	10
B105 Navajo Indian Irrigation Project	NM	10,000	39,498	7,625	0	139	80	80	0
Totals		21,203	201,898	153,607	411	47,248			
Billings Area — Indian Affairs									
B106 Blackfeet Irrigation Project	MT	17,618	55,700	40,200	11,000	20,000	27	43	16
B107 Fort Belknap Indian Irrigation Project	MT	10,425	26,600	16,200	3,305	8,100	39	56	17
B108 Fort Peck Irrigation Project	MT	18,347	30,600	12,300	2,473	6,000	59	74	15
Totals		46,390	112,900	68,700	16,778	34,100			

Table 5 — Project water use efficiencies — Continued

	Study areas	State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
								Present	Estimated Potential	Gain
Portland Area — Indian Affairs										
B109	Fort Hall Irrigation Project	ID	37,504	321,000	246,000	0	115,000	23	36	13
B110	Wapato-Satus Unit	WA	115,562	660,000	417,000	0	170,000	36	49	13
B111	Ahtanum Unit	WA	4,512	15,600	9,300	0	6,800	40	71	31
B112	Toppenish-Simcoe Unit	WA	2,200	13,800	10,300	0	8,000	25	60	35
	Totals		159,778	1,010,400	682,600	0	299,800			
Phoenix Area — Indian Affairs										
B113	Colorado River Indian Irrigation Project	AZ	66,000	648,800	373,400	2,300	250,800	42	69	27
B114	Uintah Indian Irrigation Project	UT	64,286	229,360	146,000	0	80,500	36	55	19
B115	San Carlos Irrigation Project (Indian)	AZ	17,662	144,860	109,450	0	83,604	24	57	33
	Totals		147,948	1,023,020	628,850	2,300	414,904			
	Grand Totals		2,370,608	11,899,773	6,749,491	702,398	3,087,972			

Table 5 — Project water use efficiencies

Study areas		State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
								Present	Estimated Potential	Gain
Pacific Northwest Region — Reclamation										
PN01	Hermiston Irrigation District	OR	7,596	79,900	60,900	12,200	43,120	23	51	28
PN02	Vale-Oregon Irrigation District	OR	34,338	191,000	113,315	11,315	86,700	40	74	34
PN03	Minidoka Irrigation District	ID	63,247	550,900	411,800	82,300	216,000	25	41	16
PN04	North Unit Irrigation District	OR	46,522	233,200	140,156	42,156	90,000	39	64	25
PN05	Mann Creek Project	ID	4,710	26,800	15,025	1,525	10,125	43	70	27
PN06	Okanogan Project	WA	3,991	32,600	23,718	3,918	11,900	27	42	15
PN07	Post Falls Irrigation District	ID	2,678	11,200	6,840	640	4,300	38	63	25
PN08	Black Canyon Irrigation District	ID	47,758	396,700	291,600	29,200	162,000	26	44	18
	Totals		210,840	1,522,300	1,063,354	183,254	624,145			
Mid-Pacific Region — Reclamation										
MP01	El Dorado Irrigation District	CA	5,748	44,600	29,500	0	16,000	33	52	19
MP02	Orland Project	CA	17,249	110,171	77,000	0	64,100	30	71	41
MP03	Madera Irrigation District	CA	92,577	207,650	132,242	867	39,475	36	44	8
MP04	Langell Valley Irrigation District	OR	15,653	83,000	56,400	0	32,000	32	52	20
MP05	Newlands Project	NV	62,919	385,000	206,000	6,000	30,000	46	50	4
	Totals		194,146	830,421	501,142	6,867	181,575			

Table 5 — Project water use efficiencies

Study areas		State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
								Present	Estimated Potential	Gain
Lower Colorado Region — Reclamation										
LC01	Reservation Division	CA	11,729	88,200	50,500	0	35,000	42	70	28
LC02	Valley Division	AZ	44,743	314,200	146,400	0	92,700	53	75	22
LC03	Imperial Irrigation District	CA	449,296	2,899,700	859,900	93,800	350,000	70	80	10
	Totals		505,768	3,302,100	1,056,800	93,800	477,700			
Upper Colorado Region — Reclamation										
UC01	North Fork Water Conservancy District	CO	12,171	62,040	40,000	0	25,500	35	60	25
UC02	Florida Project	CO	16,016	53,070	25,000	0	14,000	52	71	19
UC03	Strawberry Valley Water Users Association	UT	40,670	59,220	32,000	0	11,100	45	56	11
UC04	Weber River Project	UT	87,160	45,390	15,000	0	11,300	66	89	23
UC05	Deer Creek Division	UT	39,270	43,400	16,200	0	10,200	62	81	19
UC06	Pine River Project	CO	50,537	224,700	130,000	0	93,100	42	71	29
UC07	Scofield Project	UT	22,433	25,740	10,600	3,600	6,000	58	76	18
UC08	Collbran Project	CO	19,946	38,800	25,200	0	20,700	35	75	40
	Totals		288,203	552,360	294,000	3,600	191,900			

Table 5 — Project water use efficiencies

Study areas	State	Total irrigated acres	Annual irrigation diversion (AF)	Water not used by crops (AF)	Water lost to further use (AF)	Estimated annual reduction in diversion (AF)	Water use efficiencies (percentage)		
							Present	Estimated Potential	Gain
Southwest Region — Reclamation									
SW01 Tucumcari Project	NM	34,782	72,303	43,800	35,000	16,000	39	50	11
SW02 Fort Sumner Project	NM	5,554	36,268	23,500	9,400	13,000	35	54	19
SW04 W. C. Austin Project	OK	42,357	37,300	28,000	14,000	5,700	24	29	5
SW06 Balmorhea Project	TX	6,680	18,173	9,300	4,200	1,800	48	54	6
SW08 San Angelo Project	TX	7,880	11,200	6,500	1,750	2,000	41	51	10
Totals		97,253	175,244	111,100	64,350	38,500			

Now, as a result of the special studies, cost effective water conservation opportunities continue to display potential in the District. These include both structural features and management techniques that warrant more detailed study. They fall in four major groups: (1) structural measures modernizing the distribution system with predictable and measurable effectiveness, (2) structural measures whose effectiveness may diminish with the successful implementation of distribution system and onfarm management programs, (3) distribution system management programs, and (4) onfarm management programs. Table 6 compares the features evaluated during the investigation. Some of the management programs included in the table were not evaluated but may deserve analysis or demonstration during the detailed canal lining and system improvements study.

Predictability of effective water conservation varies with the different features. Risks and uncertainties associated with Group 1 features are minimal with predictable and measurable results. These display technical feasibility and could be implemented in a finite time frame, depending upon capital funding availability. Risks associated with Group 2 features are higher because the technical and operational uncertainties are greater and their useful life could be shortened by implementation of other distribution system management programs and, possibly, construction of other system improvements.

Even though distribution system and onfarm management programs appear to be some of the most productive and cost effective measures, there is the greatest degree of risk and uncertainty associated with these measures because (1) the onfarm measures cannot be fully effective unless the distribution system is capable of delivering a specified amount of water at the time it is needed and

(2) these measures rely upon widespread effective information dissemination and effective voluntary adoption and use by system operators and water users. Furthermore, uncertainties in future Colorado River salinity levels should also be recognized (Colorado River Water Quality Improvement Program Status Report, January 1983). If salinities increase, then either yields will decrease or additional leaching water will be required.

A natural progression for consideration of futher detailed study leading to authorization and funding of the water conservation program implementation would concentrate initially on those features producing the most predictable results. Implementation of the other features would follow over a several year period. Initial activities during the first 5 years would include lining the canals, installing the amtomated control system on the East Highline Canal, and installing water measuring devices on all customer turnouts. A computerized system scheduling program could also be initiated as a demonstration program in one of the division offices. Administrative programs to inform and encourage conservation through incentives could be tested as part of the demonstration and could continue and expand as the programs gain acceptability with the farmers.

The second phase of the water conservation program extending over the next 5 to 10 years could include construction of the regulating reservoir and spill interceptor system. Expansion of the system scheduling and onfarm management demonstration programs could be expected to continue.

Finally, the third phase could concentrate on district-wide implementation of system scheduling and onfarm management. This last phase could take several more years depending upon how quickly system operators and growers adopt the programs.

Table 6

COMPARISON OF WATER CONSERVATION FEATURES

Water Conservation Opportunities

Imperial Irrigation District

Feature	Capital Cost ($Million)	Potential Water Conservation (Acre-Feet)	Further Study Period (Years)	Potential Implementation Period (Years)	Responsible Agency	Relative Degree of certainty of results
1. Structural features unaffected by operational changes:						
Canal Lining (350 mi.)	80	100,000	2-5	5-10	Fed/Partner	80-90%
System Automation-East Highline Canal only	8.5	25,000	3-5	5-10	Fed/Partner	75-85%
Onfarm water measuring devices	4.5	—	1-5	5-10	Fed/Partner	50%
Sub total	93.0	125,000				
2. Structural features possibly affected by operational changes:						
Large Regulating reservoir	24.4	20,000	4-5	5-15	Fed/Partner	Int. 80% Long term 30%
Spill Interceptor System (no right-of-way cost incl.)	13	70,000	4-5	5-15	Fed/Partner	Int. 80% Long term 30%
Sub total	37.4	90,000				
3. Distribution system management programs:						
Computerized System Scheduling	.3	—	2-5	5-20	District/Fed	75%
Administrative Programs[2]	—	—	5	5-20	District/Irrigators	50%
Sub total	.3					

[1] Results are uncertain but could possibly reduce the need or effective life of the large regulating reservoir and/or spill interceptor system. Impacts should be determined by a demonstration program. *Full* implementation and use could require 10 to 15 years.

[2] Includes total demand or "sequential" operation with irrigators receiving water for shorter periods than 24 hours. Delivery would be received when water is available rather than at a normal turn on time. Would require substantial demonstrations, information, and change in current practice.

Table 6

COMPARISON OF WATER CONSERVATION FEATURES (Continued)

Water Conservation Opportunities

Imperial Irrigation District

Feature	Capital Cost ($Million)	Potential Water Conservation (Acre-Feet)	Further Study Period (Years)	Potential Implementation Period (Years)	Responsible Agency	Relative Degree of certainty of results
4. Onfarm management programs:						
Field Scheduling(3)	.5	135,000	5+	20+	Irrigators/District	25-50%
Administrative Information and Incentive Programs(4)	—	—	5+	20+	District/Irrigators	50%
Sub total	.5	135,000				
Total(5)	130.9	350,000				

(3) Results are uncertain because success requires full implementation and use by water users. 50% implementation could require 5 to 20 years. The annual cost of providing this service to 450,000 acres is about $2.5 million.

(4) These options are designed to promote water use awareness and onfarm water conservation. They include enhanced water accounting and a sliding-scale water rate or a rebate program. Opportunities would be evaluated by a 3 to 5 year demonstration program (possibly included with a system scheduling demonstration).

(5) Computerized system scheduling costs and technical staff costs are not included which would amount to $500,000 annually for 450,000 acres.

Total canal lining could conserve and reduce the diversions to the Imperial Irrigation District. Table 7 shows a ranking of the 490 miles of canals having a potential for water conservation through lining. Potential water conservation would be about 36,000 acre-feet per year less than shown on the table because lining the main canals would eliminate the seepage now recovered by the canal seepage recovery system. However, only about 350 miles are being considered for lining because of cost effectiveness. A comparison of total and partial lining is shown below:

Program	Miles Lined	Potential Conservation (Ac-Ft/yr)	Unit Cost ($/Ac-Ft)
Total Program.....	490	120,000	90
Partial program	350	100,000	70

IMPACTS OF CONSERVATION ON SALTON SEA: A Salton Sea modeling study was conducted to project future elevations and salinity under current conditions and with implementation of a water conservation program. Figure 1 shows historic elevations, projected elevations with current conditions continuing, and projected elevations with various combinations of water conservation measures implemented over a 20-year period. The last historic Sea level plotted was elevation −228.3 feet for the year 1980. This was the highest recorded Sea level since the year 1907. Projections begin in 1981. Projections of continuing current trends indicate elevations will stabilize somewhat fluctuating between −233 foot and −229 foot elevations. Projected elevations would decline with implementation of the conservation program to near elevation −245 feet occurring about 15 years after full implementation of the program. Elevations would then fluctuate between elevation −241 feet and elevation −247 feet depending upon natural runoff.

Projected salinities as shown in Figure 2, with a continuation of current conditions, would reach about 60,000 mg/L by the year 2010 and about 75,000 mg/L by the year 2030. Projected salinities occurring with the proposed conservation program would be about 90,000 mg/L and about 130,000 mg/L in the years 2010 and 2030, respectively.

Impacts evaluated by the study probably represent the most severe case. Rates of decline in Sea elevation and increase in salinity will be proportionally less if only a portion of the conservation program is implemented or if the conservation program is implemented at a slower rate than anticipated.

Table 7
POTENTIAL WATER SAVINGS AND COSTS
Water Conservation Opportunities
Imperial Irrigation District, California

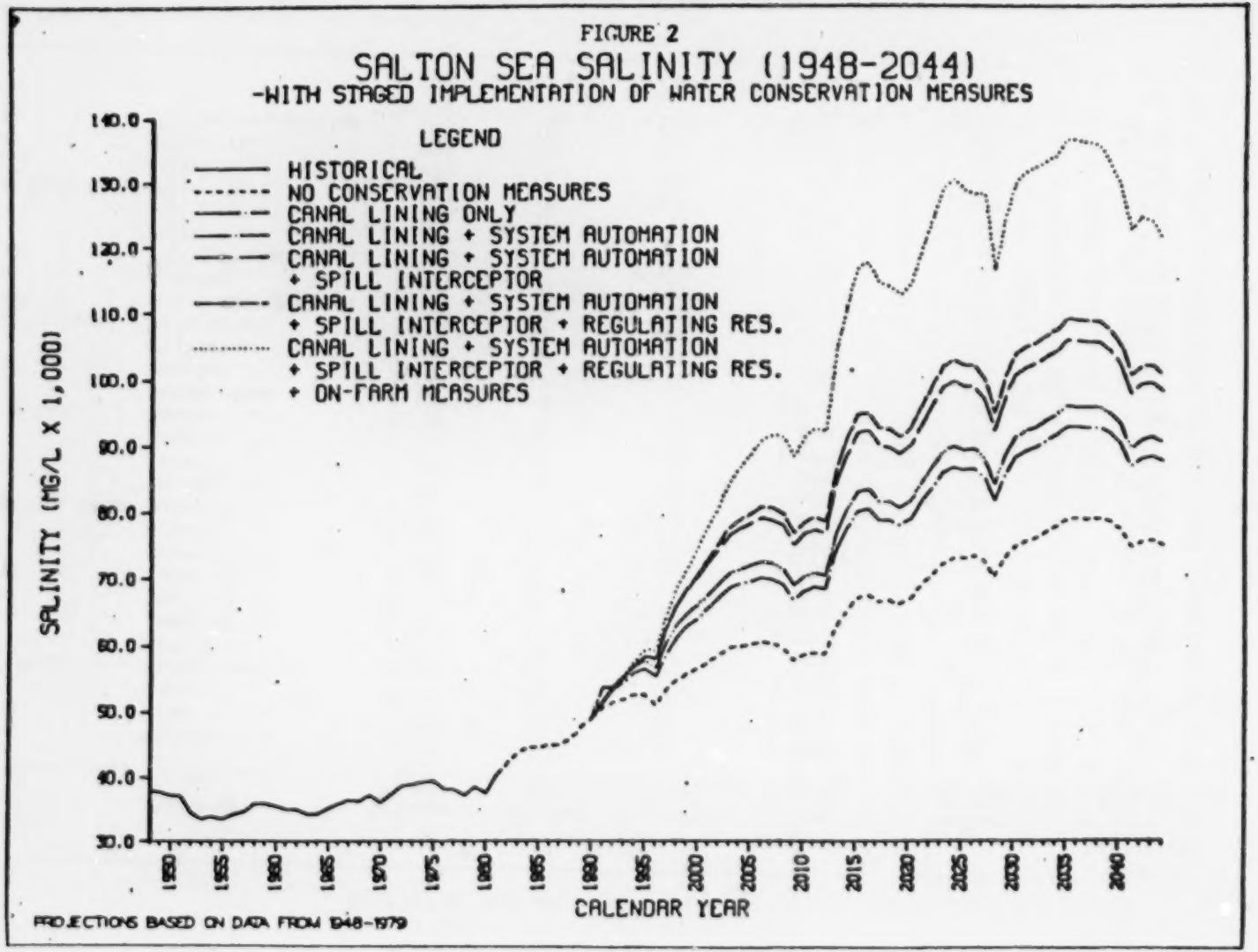
Rank	Main Canal Segments and Runs	Division or Unit	Salvage AC-FT	Unlined Miles	Cost/Mile $1,000	Cost $1,000	Annual $1,000	Annual Equivalent Cost 1/ $/AC-FT
1	S. Alamo	Holtville	5,600	13	77	1,000	80	15
2	Rockwood	Brawley	5,200	13	77	1,000	80	15
3	Dahlia	Imperial	4,300	18	78	1,400	110	25
4	Westside Main	Westmorland	4,600	20	75	1,500	120	25
5	Pear	Holtville	2,000	10	80	800	60	30
6	Elder	Imperial	3,800	19	79	1,500	110	30
7	Foxglove	Imperial	3,200	18	78	1,400	110	35
8	Evergreen	Imperial	3,400	20	75	1,500	120	35
9	Thistle	Westmorland	2,000	15	80	1,200	90	35
10	Orange	Brawley	3,100	22	77	1,700	130	40
11	East Highline Canal	Main Canal	78,600	45	1,060	47,600	3,600	45
12	Spruce	Westmorland	800	7	71	500	40	50
13	Bryant	Brawley	2,000	17	77	1,300	100	50
14	Myrtle	Brawley	2,700	25	76	1,900	150	55
15	Trifolium Ext.	Westmorland	2,200	20	80	1,600	120	60
16	Tuberose	Westmorland	1,100	14	71	1,000	80	70
17	Mayflower	Brawley	2,100	27	78	2,100	160	80
18	Holt	Holtville	400	6	83	500	40	85
19	Vail Supply Canal	Main Canal	3,800	11	410	4,500	340	90
20	CM to WSM	All-American Canal	9,500	13	1,150	15,000	1,200	120
21	Oleander	Brawley	1,300	30	77	2,300	180	140
22	EHL to CM	All-American Canal	6,700	11	1,760	19,400	1,500	210
23	Oat	Holtville	300	13	77	1,000	80	240
24	Z	Calipatria	700	31	77	2,400	180	250
25	Westside Main Canal	Main Canal	4,700	25	720	18,000	1,400	300
26	Vail Canal	Main Canal	400	4	430	1,700	130	360
27	Ash Main	Holtville	300	12	210	.2,500	190	625
28	Wisteria	El Centro-Calexico	100	15	250	3,700	280	3,300
	Total		155,300 2/	490	290	140,000	10,800	80 2/

1/ These cost figures are incremental, not cumulative.
2/ Gross water salvage does not include reduction of canal seepage recovery estimated at 36,000 acre-feet.

FIGURE 2

SALTON SEA SALINITY (1948-2044)

-WITH STAGED IMPLEMENTATION OF WATER CONSERVATION MEASURES



Table

ESTIMATES FOR A WATER BUDGET FOR THE DISTRICT INDICATED BY ANALYSES OF EXISTING DATA FOR THE 1977 TO 1980 STUDY PERIOD

Water Conservation Opportunities
Imperial Irrigation District California

Inflow	(1,000 Ac-Ft/YR)	Outflow	(1,000 Ac-Ft/YR)
Drop No. 1	2,734	Crop Consumptive Use	1,797
Surface Flows from Mexico	128	Phreatophytes	96
Coachella Canal Seepage	100	Surface Flows to Sea (measured)	1,157
Precipitation	150	Underflow to Sea	50
Underflow from Mexico	13	Evaporation (canals)	25
Total	3,125	Total	3,125

State Water Resources Control Board Application No. IID Hearing USBR Exh. 2, for identification 121383, in evidence 121483, File 262-0 (13-02), Folder 2L, Item 12, Exh. 2.

United States Department of the Interior

BUREAU OF RECLAMATION
LOWER COLORADO REGIONAL OFFICE
P.O. BOX 427
BOULDER CITY, NEVADA 89005
JULY 18, 1984

IN REPLY REFER TO: LC-757 453.

Ms. Carole A. Onorato, Chairwoman
State Water Resources Control Board
P.O. Box 2000
Sacramento, California 95810

Dear Ms. Onorato:

In the interest of effective, long-term water conservation, we believe that the State Water Resources Control Board (Board) would be justified in reconsidering the Board's decision that Imperial Irrigation District (District) is guilty of misuse of water *at this time.* Even though the hearing record showed evidence of canal spills and tailwater runoff, several points did not appear to be given adequate consideration when arriving at the decision.

Surpluses have existed in the Colorado River system for the past several years. At the time the board was shown evidence of spills in the District, reservoirs in the Lower Colorado River Basin were overflowing and flood damage was occurring from Hoover Dam to the Gulf of California. At our urging, the Metropolitan Water District of Southern California (MWD) was pumping more water through its facilities than normal in order to relieve flooding below Parker Dam.

District operating losses presently meet beneficial fish and wildlife needs. Waste only occurs when competing water users lack sufficient supplies for municipal, industrial, and agricultural purposes.

Delivery system and onfarm water losses are a function of system design and water management sophistication. Upgrading the system and implementing additional conservation measures (often at costs greater than the value of the conserved water) have been economically infeasible because no use existed for the conserved water.

We realize that there will be water years in the future when shortages will occur. Failure by the District or any other water user to implement effective conservation measures to minimize such shortages would certainly be a waste and misuse of water.

We must plan now to develop and implement conservation programs that will make additional water available for future needs. Implementation of the most cost effective conservation program will require the cooperative efforts of Federal, state, and local agencies working together to find solutions. We are concerned that the Board's decision, as it now stands, may result in lengthy court proceedings which could essentially stop any dialogue for the duration of the litigation.

We have been working actively with the District to develop a comprehensive conservation program. Our recently completed water conservation opportunities investigation identified a number of structural and nonstructural conservation measures that might be implemented in the District. Our Canal Lining and System Improvement Study, scheduled to begin this fall, will investigate the feasibility of these structural and nonstructural measures. A conservation plan and construc-

tion program will result from the study. Based upon our investigation to date, we believe there may be some opportunities for construction prior to conclusion of the 3-year feasibility study depending upon the time required to complete additional data collection and analysis and the time required to comply with state and Federal environmental protection regulations. However, a comprehensive conservation plan cannot be completed by the deadline specified in the Board's order.

We have been concerned with conservation for many years prior to the Board's involvement with the District. In compliance with 43 CFR Part 417, we monitor water use and meet annually with the irrigation districts in the Lower Colorado Region to discuss water conservation measures and operating practices of the water users. Part 417 of the Federal regulations was the outgrowth of some water short years during the late 1960's. It directs the Bureau of Reclamation to play an active role in not only consulting with but also in encouraging wise and prudent use of Colorado River water by the water users.

Discussions with the districts cover such topics as cropping patterns, system operations, new techniques for sprinklers, drip and trickle irrigation and advancements made by other districts. It was during these meetings that the District's 13 point water conservation plan (later revised to a 21 point plan) was first discussed.

Our personnel continually encourage conservation, even during years of full storage and high riverflows, because there will be future cutbacks in available water supplies once the Central Arizona Project and the Upper Basin States divert their full entitlements.

Therefore, we believe that the Board's decision is likely to impede rather than promote cost effective water conservation in the District.

Sincerely yours,

N. W. PLUMMER
Regional Director

cc: Chief Engineer, Colorado River Board of California, 107 South Broadway, Room 8103, Los Angeles, California 90012

David L. Osias, Esq., Gray, Cary, Ames & Frye, 2100 Union Bank Building, San Diego, California 92101

Mr. Thomas J. Graff, General Counsel, Environmental Defense Fund, 2606 Dwight Way, Berkeley, California 94704

Lowell F. Sutherland, Esq., Sutherland & Gerber, 300 South Imperial Avenue, Suite 7, El Centro, California 92243

Mr. John Kramer, Office of Chief Counsel, Department of Water Resources, 1416 Ninth Street, Room 1115, Sacramento, California 95814

Reginald L. Knox, Jr., Esq., Horton, Knox, Carter & Foote, 895 Broadway, Suite 101, Law Building, El Centro, California 92243

Mr. Victor R. Gleason, Deputy General Counsel, Metropolitan Water District of Southern California, P.O. Box 54153, Los Angeles, California 90054

Mr. Lowell Weeks, General Manager, Coachella Valley Water District, P.O. Box 1058, Coachella, California 92236

Mr. James Watte, President, Water Conservation Advisory Board, Imperial Irrigation District, 1284 Main Street, El Centro, California 92243

Mr. Jim Schuler, Department of Fish and Game, 1416 Ninth Street, Sacramento, California 95814

State Water Resources Control Board, Division of Water Rights, Post Office Box 2000, Sacramento, California 95810

Mr. Charles L. Shreves, General Manager, Imperial Irrigation District, P.O. Box 937, Imperial, California 92251

PART 417 — PROCEDURAL METHODS FOR IMPLEMENTING COLORADO RIVER WATER CONSERVATION MEASURES WITH LOWER BASIN CONTRACTORS AND OTHERS

Sec.

417.1 Scope of part.
417.2 Consultation with Contractors.
417.3 Notice of recommendations and determinations.
417.4 Changed conditions, emergency, or hardship modifications.
417.5 Duties of the Commissioner of Indian Affairs with respect to Indian Reservations.
417.6 General regulations.

AUTHORITY: 45 Stat. 1057, 1060; 43 U.S.C. 617; and Supreme Court Decree in "Arizona v. California," 376 U.S. 340.

SOURCE: 37 FR 18076, Sept. 7, 1972, unless otherwise noted.

§ 417.1 Scope of part.

The procedures established in this part shall apply to every public or private organization (herein termed "Contractor") in Arizona, California, or Nevada which, pursuant to the Boulder Canyon Project Act or to provisions of other Reclamation Laws, has a valid contract for the delivery of Colorado River water, and to Federal establishments other than Indian Reservations enumerated in Article II(D) of the March 9, 1964, Decree of Supreme Court of the United States in the case of "Arizona v. California et al.", 376 U.S. 340 (for purposes of this part each such Federal establishment is considered as a "Contractor"), except that (a) neither this part nor the term "Contractor" as used herein shall apply to any person or

entity which has a contract for the delivery or use of Colorado River water made pursuant to the Warren Act of February 21, 1911 (36 Stat. 925) or the Miscellaneous Purposes Act of February 25, 1920 (41 Stat. 451), (b) Contractors and permittees for small quantities of water, as determined by the Regional Director, Bureau of Reclamation, Boulder City, Nev. (herein termed "Regional Director"), and Contractors for municipal and industrial water may be excluded from the application of these procedures at the discretion of the Regional Director, and (c) procedural methods for implementing Colorado River water conservation measures on Indian Reservations will be in accordance with § 417.5 of this part.

§ 417.2 Consultation with Contractors.

The Regional Director or his representative will, prior to the beginning of each calendar year, arrange for and conduct such consultations with each Contractor as the Regional Director may deem appropriate as to the making by the Regional Director of annual recommendations relating to water conservation measures and operating practices in the diversion, delivery, distrtibution and use of Colorado River water, and to the making by the Regional Director of annual determinations of each Contractor's estimated water requirements for the ensuing calendar year to the end that deliveries of Colorado River water to each Contractor will not exceed those reasonably required for beneficial use under the respective Boulder Canyon Project Act contract or other authorization for use of Colorado River water.

§ 417.3 Notice of recommendations and determinations.

Following consultation with each Contractor and after consideration of all relevant comments and suggestions advanced by the Contractors in such consultations, the Regional Director will formulate his recommendations and determinations relating to the matters specified in § 417.2. The recommendations and determinations shall, with respect to each Contractor, be based upon but not necessarily limited to such factors as the area to be irrigated, climatic conditions, location, land classifications, the kinds of crops raised, cropping practices, the type of irrigation system in use, the condition of water carriage and distribution facilities, record of water orders, and rejections of ordered water, general operating practices, the operating efficiencies and methods of irrigation of the water users, amount and rate of return flows to the river, municipal water requirements and the pertinent provisions of the Contractor's Boulder Canyon Project Act water delivery contract. The Regional Director shall give each Contractor written notice by registered or certified mail, return receipt requested, of his recommendations and determinations. If the recommendations and determinations include a reduction in the amount of water to be delivered, as compared to the calendar year immediately preceding, the notice shall be delivered to the Contractor or timely sent by registered or certified mail, return receipt requested, so that it may reasonably be delivered at least 30 days prior to the first date water delivery would be affected thereby, and shall specify the basis for such reduction including any pertinent factual determinations. The recommendations and determinations of the Regional Director shall be final and conclusive unless, within 30 days of the date of receipt of the notice, the Contractor submits his written comments and

objections to the Regional Director and requests further consultation. If, after such further consultation, timely taken, the Regional Director does not modify his recommendations and determinations and so advises the Contractor in writing, or if modifications are made but the Contractor still feels aggrieved thereby after notification in writing of such modified recommendations and determinations, the Contractor may, before 30 days after receipt of said notice, appeal to the Secretary of the Interior. During the pendency of such appeal, and until disposition thereof by the Secretary, the recommendations and determinations formulated by the Regional Director shall be of no force or effect. In the event delivery of water is scheduled prior to the new recommendations and determinations becoming final, said delivery shall be made according to the Contractor's currently proposed schedule or to the schedules approved for the previous calendar year, whichever is less.

§ 417.4 Changed conditions, emergency, or hardship modifications.

A Contractor may at any time apply in writing to the Regional Director for modification of recommendations or determinations deemed necessary because of changed conditions, emergency, or hardship. Upon receipt of such written application identifying the reason for such requested modification, the Regional Director shall arrange for consultation with the Contractor with the objective of making such modifications as he may deem appropriate under the then existing conditions. The Regional Director may initiate efforts for further consultation with any Contractor on his own motion with the objective of modifying previous recommendations and determinations, but in the event such modifications are made, the Contractor shall have the same opportunity to object and appeal as

provided in § 417.3 of this part for the initial recommendations and determinations. The Regional Director shall afford the fullest practicable opportunity for consultation with a Contractor when acting under this section. Each modification under this section shall be transmitted to the Contractor by letter.

§ 417.5 Duties of the Commissioner of Indian Affairs with respect to Indian Reservations.

(a) The Commissioner of Indian Affairs (herein termed "Commissioner") will engage in consultations with various tribes and other water users on the Indian Reservations listed in Article II(D) of said Supreme Court Decree, similar to those engaged in by the Regional Director with regard to Contractors as provided in § 417.2 of this part. After consideration of all comments and suggestions advanced by said tribes and other water users on said Indian Reservations concerning water conservation measures and operating practices in the diversion, delivery, distribution and use of Colorado River water, the Commissioner shall, within the limits prescribed in said decree, make a determination as to the estimated amount of water to be diverted for use on each Indian Reservation covered by the above decree. Said determination shall be made prior to the beginning of each calendar year. That determination shall be based upon, but not necessarily limited to, such factors as: The area to be irrigated, climatic conditions, location, land classifications, the kinds of crops raised, cropping practices, the type of irrigation system in use, the condition of water carriage and distribution facilities, record of water orders, and rejections of ordered water, general operating practices, the operating efficiencies and methods of irrigation of the tribes and water users on each reservation, the amount and rate of return flows to the river, municipal

water requirements, and other uses on the reservation. The Commissioner of Indian Affairs shall deliver to the Regional Director written notice of the amount of water to be diverted for use upon each Indian Reservation for each year 60 days prior to the beginning of each calendar year and the basis for said determination. The determination of the Commissioner shall be final and conclusive unless within 30 days of the date of receipt of such notice the Regional Director submits his written comments and objections to the Commissioner of Indian Affairs and requests further consultation. If after such further consultation, timely taken, the Commissioner does not modify his determination and so advises the Regional Director in writing or if modifications are made by the Commissioner but the Regional Director still does not agree therewith, the Regional Director may, within 30 days after receipt of the Commissioner's response, appeal to the Secretary of the Interior for a decision on the matter. During the pendency of such appeal and until disposition thereof by the Secretary, water deliveries will be made to the extent legally and physically available according to the Commissioner's determination or according to the Commissioner's determination for the preceding calendar year, whichever is less.

(b) Modifications of said determinations due to changed conditions, emergency or hardship may be made by the Commissioner, subject, however, to the right of the Regional Director to appeal to the Secretary, as provided in the case of an initial determination by the Commissioner. During the pendency of such an appeal, water deliveries will be made on the basis of the initial determination.

§ 417.6 General regulations.

In addition to the recommendations and determinations formulated according to the procedures set out above, the right is reserved to issue regulations of general applicability to the topics dealt with herein.

Water Code § 174. Legislative findings and declaration

The Legislature hereby finds and declares that in order to provide for the orderly and efficient administration of the water resources of the state it is necessary to establish a control board which shall exercise the adjudicatory and regulatory functions of the sate in the filed of water resources.

It is also the intention of the Legislature to combine the water rights and the water pollution and water quality functions of state government to provide for consideration of water pollution and water quality, and availability of unappropriated water whenever applications for appropriation of water are granted or waste discharge requirements or water quality objectives are established.

(Added by Stats. 1967, c. 284, p. 1442, § 2, operative Dec. 1, 1967.)

Water Code § 179. Powers and duties of board; jurisdiction

The board succeeds to and is vested with all the powers, duties, purposes, responsibilities, and jurisdiction vested in the Department and Director of Public Works, the Division of Water Resources of the Department of Public Works, the State Engineer, the State Water Quality Control Board, or any officer or employee thereof, under Division 2 (commencing with Section 1000), except Part 4 (commencing with Section 4000) and Part 6 (commencing with Section 5900) thereof; and Division 7 (commencing with Section 13000) of this code, or any other law under which permits or licenses to appropriate water are issued, denied, or revoked or under which the functions of water pollution and quality control are exercised.

(Formerly § 189, added by Stats. 1956, 1st Ex. Sess., c. 52, p. 426, § 7. Renumbered § 179, by Stats. 1957, c. 1932, p. 3373, § 28. Amended by Stats. 1967, c. 284, p. 1443, § 4, operative Dec. 1, 1967.)

Water Code § 275. Prevention of unreasonable use of water

The department and board shall take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water in this state.

(Stats. 1943, c. 368, p. 1608, § 275. Amended by Stats. 1943, c. 373, p. 1897; Amended by Stats. 1971, c. 794, p. 1545, § 2.)

Taken from West's Annotated California Codes

§ 1011. Appropriated water rights: cessation or reduction in use due to conservation; forfeiture; reports; transfer of water and water rights

(a) When any person entitled to the use of water under an appropriative right fails to use all or any part of the water because of water conservation efforts, any cessation or reduction in the use of such appropriated water shall be deemed equivalent to a reasonable beneficial use of water to the extent of such cessation or reduction in use. No forfeiture of the appropriative right to the water conserved shall occur upon the lapse of the forfeiture period applicable to water appropriated pursuant to the Water Commission Act or this code or the forfeiture period applicable to water appropriated prior to December 19, 1914.

The board may require that any user of water who seeks the benefit of this section file periodic reports describing

the extent and amount of the reduction in water use due to water conservation efforts. To the maximum extent possible, the reports shall be made a part of other reports required by the board relating to the use of water. Failure to file the reports shall deprive the user of water of the benefits of this section.

For purposes of this section , the term "water conservation" shall mean the use of less water to accomplish the same purpose or purposes of use allowed under the existing appropriative right. Where water appropriated for irrigation purposes is not used by reason of land fallowing or crop rotation, the reduced usage shall be deemed water conservation for purposes of this section.

(b) Water, or the right to the use of water, the use of which has ceased or been reduced as the result of water conservation efforts as described in subdivision (a), may be sold, leased, exchanged, or otherwise transferred pursuant to any provision of law relating to the transfer of water or water rights, including, but not limited to, provisions of law governing any change in point of diversion, place of use, and purpose of use due to the transfer.

(Added by Stats. 1979, c. 1112, p. 4047, § 2, eff. Sept. 28, 1979. Amended by Stats. 1982, c. 867, p. 3228, § 4)

CALIFORNIA CONSTITUTION

Article X, § 2. Conservation of water resources; restriction on riparian rights

Sec. 2. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

(Added June 8, 1976; formerly Article 14, § 3, added November 6, 1928.)

Taken from West's Annotated California Codes

Appendix 1106

ALL-AMERICAN CANAL:

IMPERIAL IRRIGATION DISTRICT, DECEMBER 1, 1932

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

BOULDER CANYON PROJECT
ALL-AMERICAN CANAL

CONTRACT FOR CONSTRUCTION OF DIVERSION DAM, MAIN CANAL, AND APPURTENANT STRUCTURES AND FOR DELIVERY OF WATER

ARTICLE 1. THIS CONTRACT, made this 1st day of December nineteen hundred thirty-two, pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, all of which acts are commonly known and referred to as the Reclamation Law, and particularly pursuant to the Act of Congress approved December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act, between THE UNITED STATES OF AMERICA, hereinafter referred to as the United States, acting for this purpose by Ray Lyman Wilbur, Secretary of the Interior, hereinafter styled the Secretary, and IMPERIAL IRRIGATION DISTRICT, an irrigation district created, organized and existing under and by virtue of the laws of the State of California, with its principal place of business at El Centro, Imperial County, California, hereinafter referred to as the District;

Witnesseth:

EXPLANATORY RECITALS

ART. 2. Whereas, for the purpose of controlling the floods, improving navigation, and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters for reclamation of public lands and other beneficial uses exclusively within the United States, the Secretary, subject to the terms of the Colorado River Compact, is authorized to construct, operate, and maintain a dam and incidental works in the main stream of the Colorado River at Black Canyon or Boulder Canyon, adequate to create a storage reservoir of a capacity of not less than twenty million acre-feet of water, and a main canal and appurtenant structures located entirely within the United States connecting the Laguna Dam, or other suitable diversion dam, which the Secretary is also authorized to construct if deemed necessary or advisable by him upon engineering or economic considerations, with the Imperial and Coachella Valleys in California, the expenditures for said main canal and appurtenant structures to be reimbursable as provided in the reclamation law; and

ART. 3. Whereas, after full consideration of the advantages of both the Black Canyon and Boulder Canyon dam sites, the Secretary has determined upon Black Canyon as the site of the aforesaid dam, hereinafter styled the Hoover Dam, creating thereby a reservoir to be hereinafter styled the Boulder Canyon Reservoir; and

ART. 4. Whereas there are included within the boundaries of the District areas of private and public lands, and additional private and public lands will by appropriate proceedings be included within the District, and the District is desirous of entering into a contract for the

construction of a suitable diversion dam and main canal and appurtenant structures, hereinafter respectively styled Imperial Dam and All-American Canal, located entirely within the United States connecting with the Imperial and Coachella Valleys, and for the delivery to the District of stored water from Boulder Canyon Reservoir; and

ART. 5. Whereas the Secretary has determined, upon engineering and economic considerations, that it is advisable to provide for the construction of such diversion dam and main canal and appurtenant structures, and has determined that the revenues provided for by this contract are adequate in his judgment to insure payment of all expenses of construction, operation, and maintenance of the said diversion dam, main canal, and appurtenant structures in the manner provided in the reclamation law;

ART. 6. Now, therefore, in consideration of the mutual covenants herein contained, the parties hereto agree as follows, to wit:

CONSTRUCTION BY UNITED STATES

ART. 7. The United States will construct the Imperial Dam in the main stream of the Colorado River at the approximate location indicated on the map marked Exhibit A attached hereto and by this reference made a part hereof, and will also construct the All-American Canal and appurtenant structures to the Imperial and Coachella Valleys, the approximate location of said canal to be as shown on the aforesaid Exhibit A. Said canal shall be constructed to a designed capacity of fifteen thousand (15,000) cubic feet of water per second from and including the diversion and desilting works at said dam to Syphon Drop; thirteen thousand (13,000) cubic feet of water per second from Syphon Drop to Pilot Knob, and

ten thousand (10,000) cubic feet of water per second westerly from Pilot Knob to Engineer Station nineteen hundred and seven as said Engineer Station is indicated on said Exhibit A. Other portions of said canal shall be constructed with such capacities as the Secretary may conclusively determine to be necessary or advisable upon engineering or economic considerations to accomplish the ends contemplated by this contract; provided, however, that changes in capacities, locations, lengths and alignments, may be made during the progress of the work as may, in the opinion of the Secretary, whose opinion shall be final and binding upon the parties hereto, be expedient, economical, necessary or advisable, except the capacities above indicated from and including the diversion and desilting works at Imperial Dam to Engineer Station nineteen hundred and seven as hereinabove in this article referred to, which capacities may be changed only by mutual agreement between the Secretary and the District. The ultimate cost to the District of the aforesaid works shall in no event exceed the aggregate sum of thirty-eight million, five hundred thousand dollars ($38,500,000). Such cost shall include all expenses of whatsoever kind heretofore or hereafter incurred by the United States from the Reclamation Fund or the Colorado River Dam Fund in connection with, growing out of, or resulting from the construction of said diversion dam, main canal and appurtenant structures, including but not limited to the cost of labor, materials, equipment, engineering, legal work, superintendence, administration, overhead, any and all costs arising from operation and maintenance of said dam, main canal and appurtenant structures prior to the time that said costs are assumed by the District, damage of all kinds and character and rights-of-way as hereinafter provided. The District hereby agrees to repay to the United States expenditures incurred on account of any

and all damages due to the existence, operation or maintenance of the diversion dam and main canal, the incurrence of which increases expenditures by the United States beyond said sum of $38,500,000. The United States will invoke all legal and valid reservations of rights-of-way under acts of Congress, or otherwise reserved or held by it, without cost to the District, except that the United States reserves the right where rights-of-way are thus acquired to reimburse the owners of such lands for the value of improvements which may be destroyed, and the District agrees that the United States may include such disbursements in the cost of the work to be performed hereunder. If rights-of-way are required over an existing project of the Bureau of Reclamation, such sum or sums as may be necessary to reimburse the United States on account of the construction charges allocated to irrigable areas absorbed in such rights-of-way shall also be considered as a part of and be included with other costs of the work to be performed hereunder. The District agrees to convey to the United States without cost, unencumbered fee simple title to any and all lands now owned by it, which, in the opinion of the Secretary may be required for right-of-way purposes for the aforesaid diversion dam, main canal and appurtenant structures. Where rights-of-way within the State of California are required for the construction of works herein provided for, and such rights-of-way are not reserved to the United States under acts of Congress, or otherwise, or the lands over which such rights-of-way are required are not then owned by the District, the District agrees that it will, upon request of the Secretary, acquire title to such lands, and in turn convey unencumbered fee simple title thereto to the United States at the actual cost thereof to the District, subject to the approval of such cost by the Secretary.

Assumption Of Operation And Maintenance By District

Art. 8. Upon sixty (60) days' written notice from the Secretary of the completion of construction of the aforesaid diversion dam, main canal and appurtenant structurs, or of any major unit thereof, useful to the District, as determined by the Secretary, whose determination thereof shall be final and binding upon the parties hereto, the District shall assume the care, operation, and maintenance of said diversion dam, main canal and appurtenant structures or major units thereof, including Laguna Dam, and thereafter the District shall at its own cost and without expense to the United States care for, operate, and maintain the same in such manner that such works shall remain in as good and efficient condition and of equal capacity for the diversion, transportation and distribution of water as when received from the United States, reasonable wear and damage by the elements excepted. Operation and maintenance of Imperial Dam by the District is a part of the obligation undertaken under this contract by the District for the transportation and delivery of water to public and Indian lands of the United States, and shall not interfere with the control of such dam by the United States. The United States may, from time to time, in the discretion of the Secretary, resume operation and maintenance of said dam upon not less than 60 days' written notice and require reassumption thereof by the District on like notice. During such times, after completion, as the dam is operated and maintained by the United States, the District shall on March 1 of each year advance to the United States the estimated cost of operation and maintenance for the following twelve months, upon estimates furnished therefor on or before September 1st next preceding. After the care, operation and maintenance of the aforesaid works have been as-

sumed by the District, the District shall save the United States, its officers, agents and employees harmless as to any and all injury and damage to persons and property which may arise out of the care, operation and maintenance thereof. In the event the United States fails to complete the works herein contemplated and the District fails to elect to make use of the works theretofore partially or wholly constructed, the District shall be fully relieved of any and all responsibility for any further operation and maintenance of the works theretofore taken over by the District for that purpose and thereupon the District shall no longer be responsible for said maintenance or operation or damage to person or property which may arise therefrom.

KEEPING DIVERSION DAM, MAIN CANAL AND APPURTENANT STRUCTURES IN REPAIR

ART. 9. Except in case of emergency no substantial change in any of the works to be constructed by the United States and transferred to the District under the provisions hereof shall be made by the District without first having had and obtained the written consent of the Secretary and the Secretary's opinion as to whether any change in any such works is or is not substantial shall be conclusive and binding upon the parties hereto. The District shall promptly make any and all repairs to and replacements of all works constructed hereunder or transferred to it under the terms and conditions hereof, which, in the opinion of the Secretary, are deemed necessary for the proper operation and maintenance of such works. In case of neglect or failure of the District to make such repairs, the United States may, at its option, after reasonable notice to the District, cause such repairs to be made and charge the actual cost thereof, plus fifteen per centum

(15%) to cover overhead and general expense, to the District. On or before September first of each calendar year the United States shall give written notice to the District of the amount expended by the United States for repairs under this article during the twelve-month period immediately preceding. Such cost, plus overhead and general expense as stated above, shall be repaid by the District on March first immediately succeeding.

AGREEMENT BY DISTRICT TO PAY FOR WORKS CONSTRUCTED BY THE UNITED STATES

ART. 10. (a) The District agrees to pay the United States the actual cost, not exceeding thirty-eight million five hundred thousand dollars ($38,500,000), incurred by the United States on account of the aforesaid works, subject, however, to the provisions of Article seven (7) hereof; provided, that should Congress fail to make necessary appropriations to complete the work herein provided for, then the Secretary may, at such reasonable time as he may consider advisable, after Congress shall have failed for five consecutive years to make the necessary appropriations which shall have been annually requested by the Secretary, give the District notice of the termination of work by the United States and furnish a statement of the amount actually expended by the United States thereon. Upon the receipt of such notice by the District the District shall be given two years from and after such receipt of notice to elect whether it will utilize said works theretofore constructed, or some particular part thereof. Such election on the part of the District shall be expressed by resolution of the Board of Directors submitted to the electorate of the District for approval or rejection in the manner provided by law for submission of contracts with the United States. If the District elects not to utilize,

or fails within said two-year period to elect to utilize said works or some portion thereof, then the District shall have no further rights therein and no obligations therefor. If the District elects to utilize said works or a portion thereof, then the reasonable value to the District of the works so utilized not exceeding the actual cost thereof to the United States shall be paid by the District under the terms of this contract; the first payment to be due and payable on the first day of March following the first day of September next succeeding the final determination of the reasonable value to the District of such works, in case no further work is done by the District. Should the District elect to complete the work contemplated by this contract, or some portion thereof, the first payment shall be due and payable on the first day of March following the first day of September next succeeding the date of final completion of the work by the District as determined by the Secretary. In determining the value of such works to the District there shall be taken into account, among other things, the method of financing required and cost of money, so that in no event shall all of the works contemplated by this contract cost the District more than they would have cost the District had they all been constructed by the United States under the terms of this contract. In the event of failure of the parties to agree as to the reasonable value to the District of the works which the District elects to use, the same shall be determined as provided in Article twenty-seven (27) hereof.

(b) The District as a whole is obligated to pay to the United States the full amount herein agreed upon regardless of the default or failure of any tract in the District, or of any landowner in the District, in the payment of the assessments levied by the District against such tract or landowner, and the District shall, when necessary levy and collect appropriate assessments to make up for the

default or delinquency of any tract of land or of any landowner in the payment of assessments, so that in any event, and regardless of any defaults or delinquencies in the payment of any assessment or assessments, the amounts due or to become due the United States shall be paid to the United States by the District when due.

(c) The District shall be divided into units by the Board of Directors of the District. Said units shall be named, commencing with Imperial Unit, which unit shall comprise the lands of the District as of July 1, 1931. Each of the other units shall be as determined by the Board of Directors of the District and shall be described by legal description of the lands embraced therein or by designation of exterior boundaries or otherwise suitable for identification. Additional lands may be added to any unit herein or hereafter designated.

(d) The lands within each unit as hereinabove provided for will be benefited by the works to be constructed under this contract in the proportion that the area within such unit bears to the total area of the District and the costs of the said works, construction and otherwise, shall be apportioned to and paid by the lands within each unit in that proportion. In levying assessments or other charges to meet the cost of the said works, the Board of Directors of the District shall take into consideration payments to be made under this contract, with proper allowance for existing and anticipated delinquencies and redemption, in order to provide sufficient funds to meet such payments as same become due and said board shall also take into account all sums expended or to be expended under the contract of October 23, 1918, for the right to connect with the Laguna Dam, the cost of all surveys and investigations and other expenditures properly chargeable as a part of the cost of the said works but

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which are not included as a part of the construction cost thereof reimbursable to the United States under this contract. While the cost of the said works and other expenditures above-mentioned shall be apportioned to the various units according to their respective areas, it is understood that the assessments or other charges to be imposed upon the lands within each respective unit shall be on an ad valorem or other basis as now or may hereafter be provided by law for assessment or imposition of other charges upon lands within irrigation districts. Rates of assessment or schedule in the various units from year to year or from time to time may be different or unequal as between the various units.

If the amount collected from the lands in any unit in any year shall be less than the amount apportioned to such unit for that year for such purpose, the deficit shall nevertheless be charged to that unit and any fund or funds of the District from which money may be taken to make up such deficit in order to provide for the payment in full of the obligations of the District, shall be entitled to reimbursement for such money from subsequent collections of unpaid assessments or charges in said unit or from the amounts received for the redemption of lands sold for delinquent assessments or charges or from subsequent or additional levies made on the lands within that unit to provide for such reimbursement.

(e) In the event lands now or hereafter within Coachella Valley County Water District, a county water district organized and existing under the laws of the State of California, are included within Imperial Irrigation District, the said Coachella Valley County Water District shall have the privilege, at its option, if, as, and when authorized to do so by law, to pay to Imperial Irrigation District the total amount of any annual and/or

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special assessments levied by the last named District upon said lands or any installment of such assessments or any of the several individual assessments or installments thereof, in any case as the same become due and payable. The regular and lawful proceedings, rights and remedies of the last named District shall be in no manner impaired or affected by the provisions of this subarticle. The agreement in this subarticle contained is made expressly for the benefit of said Coachella Valley County Water District.

(f) If for any reason only a part of the works herein contemplated is constructed either by the United States or by the District, then the Board of Directors of the District shall, after public hearing, determine whether or not all of the lands in the District are benefited by the works constructed. If the Board shall find and declare that any certain lands within the District are not benefited by such construction, then no assessments shall thereafter be levied upon such lands for the purpose of meeting the obligations under this contract; and, for the purpose of this subarticle, no land shall be regarded as benefited by the construction of such works until the works contemplated by this contract as indicated on said Exhibit A from which water would reasonably be obtained for such lands shall have been constructed.

(g) The District shall have the right to refuse water service to any lands within the District which may at any time be delinquent in the payment of any assessment levied for the purpose of carrying out the provisions of this contract.

CHANGES IN DISTRICT BOUNDARIES

ART. 11. After the date of this contract no change shall be made in the boundaries of the District and the

Board of Directors shall make no order changing the boundaries of the District, unless and until the Secretary shall assent to such change in writing, and such assent shall have been filed with the Board of Directors of the District; provided, however, that such assent is hereby given for the inclusion of all of the lands indicated on Exhibit A referred to in Article 34 hereof.

TERMS OF PAYMENT

ART. 12. The amount herein agreed to be paid to the United States shall be due and payable in not more than forty (40) annual installments commencing with the calendar year next succeeding the year when notice of completion of all work provided for herein is given to the District or under the provisions of Article 10 (a) hereof upon termination of work through failure of Congress to make necessary appropriations therefor. The first five of such annual installments shall each be one per centum (1%) of the amount herein agreed to be paid to the United States; the next ten of such installments shall each be two per centum (2%) of the amount herein agreed to be paid to the United States, and the remainder of such annual installments shall each be three per centum (3%) of the amount herein agreed to be paid to the United States. The sums payable annually as set forth above shall be divided into two equal semiannual payments, payable on March first and September first of each year; provided, however, that if notice of the completion of work is given to the District subsequent to September first of any year the first semiannual installment of charges hereunder shall be due and payable on March first of the second succeeding year.

Operation and Maintenance Costs

Art. 13. Each agency other than the District for which capacity is provided in the works to be constructed hereunder shall bear such proportionate part of the cost of operation and maintenance (including repairs and replacements) of the component parts thereof and of the Laguna Dam as may be determined by the Secretary to be equitable and just, but not less than an amount in proportion to the total amount as are the relative capacities provided in each component part for such agency and for all other agencies, including the District. Each agency shall advance to the District, on or before January first of each year, its proportionate share of the estimated cost for that year of operation and maintenance in accordance with a notice to be issued by the District, provided that payment shall in no event be due until thirty days after receipt of notice. Prior to March 1st of each year the District shall provide each agency with a statement showing in detail the costs for the previous year for operation and maintenance of the works on account of which such agency has made advances. Differences between actual costs and estimated costs shall be adjusted in next succeeding notices. Upon request of any agency both the advance notice of estimated costs and the subsequent statement of actual costs for each year shall be reviewed by the Secretary and his determination of proper charges shall be final. Such review shall not change the due date for advance payments as herein provided, and the cost of such review shall be borne equally by the requesting agency and the District. The District may, at its option, withhold the delivery of water from any agency until its proportionate share of the costs of operation and maintenance have been advanced or paid, as in this article provided.

Power Possibilities

Art. 14. As one of the considerations for the partial termination of the contract of October 23, 1918, as provided for in Article sixteen (16) hereof, the power possibilities on the All-American Canal down to and including Syphon Drop with water carried for the benefit of the Yuma Project as provided for in Article fifteen (15) hereof, are hereby reserved to the United States. Subject to the foregoing provisions of this Article and the participation by other agencies as provided for in Article twenty-one (21) hereof, the District shall have the privilege at any time of utilizing by contract or otherwise such power possibilities as may exist upon said canal. The net proceeds as hereinafter defined in Article thirty-two (32) hereof and as determined by the Secretary for each calendar year from any such power development shall be paid into the Colorado River Dam Fund on March first of the next succeeding calendar year and be credited to the District on this contract until the District shall have paid thereby and/or otherwise an amount of money equivalent to that herein agreed to be paid to the United States. Thereafter such net power proceeds shall belong to the District. It is agreed that in the event the net power proceeds in any calendar year, creditable to the District, shall exceed the annual installment of charges payable under this contract during the then current calendar year, the excess of such net power proceeds shall be credited on the next succeeding unpaid installment to become due from the District under this contract.

Diversion and Delivery of Water for Yuma Project

Art. 15. As a further consideration for the partial termination of the contract of October 23, 1918, as pro-

vided in Article sixteen (16) hereof, the District hereby agrees to divert at the Imperial Dam, and to transport and deliver at Syphon Drop and/or such intermediate points as may be designated by the Secretary, the available water to which the Yuma Project (situated entirely within the United States and not exceeding in area 120,000 acres plus lands lying between the project levees and the Colorado River as such levees are located in 1931) is entitled, not exceeding two thousand (2,000) second-feet of water in the aggregate, or such part thereof as the Secretary may direct, for the use and benefit of said project, including the development of power at Syphon Drop, such water to be diverted, transported and delivered continuously insofar as reasonable diligence will permit, provided, however, that water shall not be diverted, transported or delivered for the Yuma Project when the Secretary notifies the District that said project for any reason may not be entitled thereto; provided, further, that the District shall divert, transport and deliver such water in excess of requirements for irrigation or potable purposes, as determined by the Secretary, on the Yuma Project as so limited, only when such water is not required by the District for irrigation or potable purposes. The diversion, transportation and delivery of water for the Yuma Project as aforesaid shall be without expense to the United States or its successors in control of said project, as to capital investment required to provide facilities for such diversion and transportation of water, except such checks, turnouts and other structures required for delivery from said canal.

CONTRACT OF OCTOBER 23, 1918

ART. 16. That certain contract between the United States of America and the District, bearing date of

October 23, 1918, providing for a connection with Laguna Dam, is hereby terminated, except as to the provisions of Article nine (9) thereof, and as one of the considerations for the partial termination of said contract by the United States, the District hereby promises and agrees to make full payment to the United States of all unpaid installments of charges as provided in Article nine (9) of said agreement, anything in said contract to the contrary notwithstanding. As an additional consideration for the partial termination of said contract of October 23, 1918, the District hereby promises and agrees to furnish to the United States or its successors in interest in the control, operation, and maintenance of the Yuma Project, from any power development on the All-American Canal at or near Pilot Knob, up to but not to exceed four thousand horsepower of electrical energy for use by the agency in charge of project operations for irrigation and drainage pumping purposes and necessary incidental use on said Yuma Project, such power to be furnished at cost (including overhead and general expense) plus ten per cent; provided, however, that the District shall not be required to furnish such power at or near Pilot Knob except at such times as all power feasible of development at Syphon Drop or developed elsewhere within a radius of 40 miles from the city of Yuma for the benefit of the Yuma project is being used for Project operations as in this article specified.

DELIVERY OF WATER BY UNITED STATES

ART. 17. The United States shall, from storage available in the reservoir created by Hoover Dam, deliver to the District each year at a point in the Colorado River immediately above Imperial Dam, so much water as may be necessary to supply the District a total quantity,

including all other waters diverted for use within the District from the Colorado River, in the amounts and with priorities in accordance with the recommendation of the Chief of the Division of Water Resources of the State of California, as follows (subject to availability thereof for use in California under the Colorado River Compact and the Boulder Canyon Project Act):

The waters of the Colorado River available for use within the State of California under the Colorado River Compact and the Boulder Canyon Project Act shall be apportioned to the respective interests below named and in amounts and with priorities therein named and set forth, as follows:

SECTION 1. A first priority to Palo Verde Irrigation District for beneficial use exclusively upon lands in said District as it now exists and upon lands between said District and the Colorado River, aggregating (within and without said District) a gross area of 104,500 acres, such waters as may be required by said lands.

SEC. 2. A second priority to Yuma Project of the United States Bureau of Reclamation for beneficial use upon not exceeding a gross area of 25,000 acres of land located in said project in California, such waters as may be required by said lands.

SEC. 3. A third priority (a) to Imperial Irrigation District, and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 3,850,000 acre-feet of water per annum less the beneficial consumptive use under the priorities designated in Sections 1

and 2 above. The rights designated (a) and (b) in this section are equal in priority. The total beneficial consumptive use under priorities stated in Sections 1, 2, and 3 of this article shall not exceed 3,850,000 acre-feet of water per annum.

SEC. 4. A fourth priority to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum.

SEC. 5. A fifth priority (e) to the Metropolitan Water District of Southern California and/or the City of Los Angeles, for beneficial consumptive use, by themselves and/or others, on the Coastal Plain of Southern California, 550,000 acre-feet of water per annum and (b) to the City of San Diego and/or County of San Diego, for beneficial consumptive use, 112,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 6. A sixth priority (a) to Imperial Irrigation District and other lands under or that will be served from the All-American Canal in Imperial and Coachella Valleys, and (b) to Palo Verde Irrigation District for use exclusively on 16,000 acres in that area known as the "Lower Palo Verde Mesa," adjacent to Palo Verde Irrigation District, for beneficial consumptive use, 300,000 acre-feet of water per annum. The rights designated (a) and (b) in this section are equal in priority.

SEC. 7. A seventh priority of all remaining water available for use within California, for agricultural use in the Colorado River Basin in California, as said basin is designated on Map No. 23000 of the Department of the Interior, Bureau of Reclamation.

SEC. 8. So far as the rights of the allottees named above are concerned, the Metropolitan Water District of Southern California and/or the City of Los Angeles shall have the exclusive right to withdraw and divert into its aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said District and/or said City (not exceeding at any one time 4,750,000 acre-feet in the aggregate) by reason of reduced diversions by said District and/or said City; provided, that accumulations shall be subject to such conditions as to accumulation, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative relations between said District and/or said City and such users resulting therefrom.

SEC. 9. In addition, so far as the rights of allottees named above are concerned, the City of San Diego and/or County of San Diego shall have the exclusive right to withdraw and divert into an aqueduct any water in Boulder Canyon Reservoir accumulated to the individual credit of said City and/or said County (not exceeding at any one time 250,000 acre-feet in the aggregate) by reason of reduced diversions by said City and/or said County; provided, that accumulations shall be subject to such conditions as to accumulations, retention, release, and withdrawal as the Secretary of the Interior may from time to time prescribe in his discretion, and his determination thereof shall be final; provided further, that the United States of America reserves the right to make similar arrangements with users in other States without distinction in priority, and to determine the correlative

relations between the said City and/or said County and such users resulting therefrom.

SEC. 10. In no event shall the amounts allotted in this agreement to the Metropolitan Water District of Southern California and/or the City of Los Angeles be increased on account of inclusion of a supply for both said District and said City, and either or both may use said apportionments as may be agreed by and between said District and said City.

SEC. 11. In no event shall the amounts allotted in this agreement to the City of San Diego and/or to the County of San Diego be increased on account of inclusion of a supply for both said City and said County, and either or both may use said apportionments as may be agreed by and between said City and said County.

SEC. 12. The priorities hereinbefore set forth shall be in no wise affected by the relative dates of water contracts executed by the Secretary of the Interior with the various parties.

The Secretary reserves the right to, and the District agrees that he may, contract with any of the allottees above named in accordance with the above stated recommendation, or, in the event that such recommendation as to Palo Verde Irrigation District is superseded by an agreement between all the above allottees or by a final judicial determination, to contract with the Palo Verde Irrigation District in accordance with such agreement or determination; *Provided*, that priorities numbered fourth and fifth shall not thereby be disturbed.

As far as reasonable diligence will permit said water shall be delivered as ordered by the District, and as reasonably required for potable and irrigation purposes within the boundaries of the District in the Imperial and

Coachella Valleys in California. This contract is for permanent water services but is subject to the condition that Hoover Dam and Boulder Canyon Reservoir shall be used: First, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses and satisfaction of perfected rights in pursuance of Article VIII of the Colorado River Compact; and third, for power. This contract is made upon the express condition and with the express covenant that the District and the United States shall observe and be subjet to, and controlled by said Colorado River Compact in the construction, management and operation of Hoover Dam, Imperial Dam, All-American Canal, and other works and the storage, diversion, delivery and use of water for the generation of power, irrigation, and other purposes. The United States reserves the right to temporarily discontinue or reduce the amount of water to be delivered for the purpose of investigation, inspection, maintenance, repairs, replacements or installation of equipment and/or machinery at Hoover Dam, but as far as feasible the United States will give the District reasonable notice in advance of such temporary discontinuance or reduction. The United States, its officers, agents and employees shall not be liable for damages when, for any reason whatsoever, suspension or reductions in delivery of water occur. This contract is without prejudice to any other or additional rights which the District may now have not inconsistent with the foregoing provisions of this article, or may hereafter acquire in or to the waters of the Colorado River. Nothing in this contract shall be construed to prevent the District from diverting water to the full capacity of the All-American Canal if and when water over and above the quantity apportioned to it hereunder is available, and no power development at Imperial and/or Laguna Dam shall be permitted to interfere with such

diversion by the District, but, except as provided in Article twenty-one (21), water shall not be diverted, transported or carried by or through the works to be constructed hereunder for any agency other than the District, except by written consent of the Secretary.

Measurement of Water

Art. 18. The water which the District receives under the apportionment as provided in Article seventeen (17) hereof shall be measured at such point or points on the canal as may be designated by the Secretary. Measuring and controlling devices shall be furnished and installed by the United States as a part of the work provided for herein, but shall be operated and mantained by and at the expense of the District. They shall be and remain at all times under the complete control of the United States, whose authorized representatives may at all times have access to them over the lands and rights-of-way of the District.

Record of Water Diverted

Art. 19. The District shall make full and complete written reports as directed by the Secretary, on forms to be supplied by the United States, of all water diverted from the Colorado River, and the disposition thereof. The records and data from which such reports are made shall be accessible to the United States on demand of the Secretary.

Refusal of Water in Case of Default

Art. 20. The United States reserves the right to refuse to deliver water to the District in the event of default for a period of more than twelve (12) months in any payment

due the United States under this contract, or, in the discretion of the Secretary to reduce deliveries in such proportion as the amount in default by the District bears to the total amount due. It is understood, however, that the provisions of this article shall not relieve the District of its obligation to divert, transport and deliver water for the use and benefit of the Yuma Project as herein elsewhere provided, nor shall it relieve the District of its obligation hereunder to divert, transport and deliver water for the use and benefit of other agencies with whom the United States may contract for the diversion, transportation and delivery of water through or by the works to be constructed under the terms hereof. The United States further reserves the right to forthwith assume control of all or any part of the works to be constructed hereunder and to care for, operate and maintain the same, so long as the Secretary deems necessary or advisable, if, in his opinion, which shall be final and binding upon the parties hereto, the District does not carry out the terms and conditions of this contract to their full extent and meaning. In such event, the District's pro rata share of the actual cost of such care, operation and maintenance by the United States shall be repaid to the United States, plus fifteen per centum (15%) to cover overhead and general expense, on March first of each year immediately succeeding the calendar year during which the works to be constructed hereunder are operated and maintained by the United States. Nothing herein contained shall relieve the District of the obligation to pay in any event all installments and penalties provided in this contract.

USE OF WORKS BY THE UNITED STATES AND OTHERS

ART. 21. The United States also reserves the right to, and the District agrees that it may, at any time prior to the transfer of constructed works to the District for operation and maintenance, increase the capacity of the said works and contract for such increased capacity with other agencies for the delivery of water for use in the United States; provided, however, that such other agencies shall not thereby be entitled to participate in power development on said All-American Canal, except at points where and to the extent that the water diverted and/or carried for them contributes to the development of power. In the event other agencies thus contract with the United States, each of such agencies shall assume such proportion of the total cost of said works to be used jointly by such agency and the District, including Laguna Dam, as the Secretary may determine to be equitable and just but not less than the proportion that the capacity provided for such agency in such works bear to the total capacity thereof (except in that part thereof above Syphon Drop including Laguna Dam, in which part the proportion which such other agency shall assume shall be not less that the proportion that the capacity provided for such agency therein bears to the total capacity thereof less the capacity to be provided hereunder without cost to and for the Yuma Project) and the District's financial obligations under this contract shall be adjusted accordingly. In no event shall construction costs chargeable to the District be increased by reason of additional capacity being provided for any such agency or agencies or contract or contracts having been made with same. Any such agency thus contracting shall also be required to reimburse the District in such amounts and at such times as the Secretary may determine to be equitable and just for payments

theretofore made by the District for the right to use Laguna Dam.

TITLE TO REMAIN IN THE UNITED STATES

ART. 22. Title to the aforesaid Imperial Dam and All-American Canal to be constructed by the United States under the terms and conditions hereof, shall be and remain in the United States notwithstanding transfer of the care, operation, and maintenance thereof to the District; provided, however, that the Secretary may, in his discretion, when repayments to the United States of all moneys advanced shall have been made, transfer the title to said main canal and appurtenant structures, except the diversion dam and the main canal and appurtenant structures down to and including Syphon Drop, to the District or other agencies of the United States having a beneficial interest therein in proportion to their respective capital investments under such form or organization as may be acceptable to him.

ASSESSMENT OF PUBLIC LAND

ART. 23. The following lands are hereby designated as subject to the provisions of the act of August 11, 1916 (39 Stat. 506), and the act of May 15, 1922 (42 Stat. 541):

(a) All unentered public lands and entered lands for which no final certificate has issued, situated within the District at the date hereof; and when included within the District, unentered public lands and entered lands for which no final certificate has been issued, hereafter to be included within the District pursuant to this contract, all described in a statement marked "Exhibit B" attached hereto and by reference thereto made a part hereof; and

(b) Unentered public lands and entered lands for which no final certificate has been issued not so described but hereafter annexed to the District, upon the Secre-

tary's consenting, in the case of such lands hereafter annexed to the District, to assessment hereunder of such added lands, which consent will be requested by resolution of the Board of Directors of the District and will be manifested by letter filed with the District, a copy of such letter to be filed also with the General Land Office, and a copy with the proper local Land Office.

Within a reasonable time, to be determined by the Secretary, from the date water is available for and can be delivered to any public lands within the boundaries of the District, such lands shall be opened to entry.

Rules and Regulations

ART. 24. There is reserved to the Secretary the right to prescribe and enforce rules and regulations not inconsistent with this contract, governing the diversion and delivery of water hereunder to the District and to other contractors. Such rules and regulations may be modified, revised and/or extended from time to time after notice to the District and opportunity for it to be heard, as may be deemed proper, necessary or desirable by the Secretary to carry out the true intent and meaning of the law and of this contract, or amendments thereof, or to protect the interests of the United States. The District hereby agrees that in the operation and maintenance of the Imperial Dam and All-American Canal, all such rules and regulations will be fully adhered to.

Inspection by the United States

ART. 25. The Secretary may cause to be made from time to time a reasonable inspection of the works constructed by the United States under the terms hereof to the end that he may ascertain whether the terms of this contract are being satisfactorily executed by the District. The actual expense of such inspection in any calendar

year, as found by the Secretary, shall be paid by the District to the United States on March first of each year immediately following the year in which such inspection is made, and upon statement to be furnished by the Secretary. The Secretary or his representative shall at all times have the right of ingress to and egress from all works of the District for the purpose of inspection, repairs, and maintenance of works of the United States, and for all other purposes.

ACCESS TO BOOKS AND RECORDS

ART. 26. The officials or designated representatives of the District shall have full and free access to the books and records of the United States, so far as they relate to the matters covered by this contract, with the right at any time during office hours to make copies of and from the same; and the Secretary shall have the same right in respect of the books and records of the District.

DISPUTES OR DISAGREEMENTS

ART. 27. Disputes or disagreements as to the interpretation or performance of the provisions of this contract, except as otherwise provided herein, shall be determined either by arbitration or court proceedings, the Secretary being authorized to act for the United States in such proceedings. Whenever a controversy arises out of this contract, and the parties hereto agree to submit the matter to arbitration, the District shall name one arbitrator and the Secretary shall name one arbitrator, and the two arbitrators thus chosen shall elect three other arbitrators, but in the event of their failure to name all or any of the three arbitrators within thirty (30) days after their first meeting, such arbitrators not so elected, shall be named by the Senior Judge of the United States Circuit Court of Appeals for the Ninth Circuit. The decision of

any three of such arbitrators shall be a valid and binding award of the arbitrators.

Interest and Penalties

Art. 28. No interest shall be charged on any installments of charges due from the District hereunder except that on all such installments or any part thereof, which may remain unpaid by the District to the United States after the same become due, there shall be added to the amount unpaid a penalty of one-half of one per centum (½%) and a like penalty of one-half of one per centum (½%) of the amount unpaid shall be added on the first day of each month thereafter so long as such default shall continue.

Agreement Subject to Colorado River Compact

Art. 29. This contract is made upon the express condition and with the express understanding that all rights based upon this contract shall be subject to and controlled by the Colorado River Compact, being the compact or agreement signed at Santa Fe, New Mexico, November 24, 1922, pursuant to Act of Congress approved August 19, 1921, entitled "An Act to permit a compact or agreement between the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming, respecting the disposition and apportionment of the waters of the Colorado River, and for other purposes," which compact was approved by the Boulder Canyon Project Act.

Application of Reclamation Law

Art. 30. Except as provided by the Boulder Canyon Project Act, the reclamation law shall govern the con-

struction, operation, and maintenance of the works to be constructed hereunder.

Contract to be Authorized by Election and Confirmed by Court

Art. 31. The execution of this contract by the District shall be authorized by the qualified electors of the District at an election held for that purpose. Thereafter, without delay, the District shall prosecute to judgment proceedings in court for a judicial confirmation of the authorization and validity of this contract. The United States shall not be in any manner bound under the terms and conditions of this contract unless and until a confirmatory final judgment in such proceedings shall have been rendered, including final decision, or pending appellate action if ground for appeal be laid. The District shall without delay and at its own cost and expense furnish the United States for its files, copies of all proceedings relating to the election upon this contract and the confirmation proceedings in connection therewith, which said copies shall be properly certified by the Clerk of the Court in which confirmatory judgment is obtained.

Method of Determining Net Power Proceeds

Art. 32. In determining the net proceeds for each calendar year from any power development on the All-American Canal, to be paid into the Colorado River Dam Fund as provided in Article fourteen (14) hereof, there shall be taken into consideration all items of cost of production of power, including but not necessarily limited to amortization of and interest on capital investment in power development, replacements, improvements, and operation and maintenance, if any. Any other proper factor

of cost not here expressly enumerated may be taken into account in determining the net proceeds.

CONTINGENT UPON APPROPRIATIONS

ART. 33. This contract is subject to appropriations being made by Congress from year to year of moneys sufficient to do the work provided for herein, and to there being sufficient moneys available in the Colorado River Dam Fund to permit allotments to be made for the performance of such work. No liability shall accrue against the United States, its officers, agents or employees, by reason of sufficient moneys not being so appropriated nor on account of there not being sufficient moneys in the Colorado River Dam Fund to permit of said allotments. If more than three years elapse after this contract becomes effective and before appropriations are available to permit the United States to make expenditures hereunder, the District may, at its option, upon giving sixty (60) days' written notice to the Secretary, cancel this contract. Such option shall be expressed by vote of the electors of the District with the same formalities as required for the authorization of contracts with the United States.

INCLUSION OF LANDS

ART. 34. (a) In this article where the words "area to be included" are used such words shall be understood to mean those certain areas shown on Exhibit A and bounded by the lines indicated thereon as "Boundary of Additional Areas in Proposed Enlarged Imperial Irrigation District."

(b) The District agrees to change its boundaries within a reasonable time after the execution of this con-

tract, in the manner provided by law, so as to include within the District the public lands of the United States in Imperial County lying south of the northerly boundary line of Township eleven (11) South of the San Bernardino Base Line, and within the area to be included.

(c) The District further agrees to change its boundaries, if lawful petition or petitions therefor be presented to its Board of Directors prior to the first day of January 1940, so as to include within the District any privately owned and/or entered lands for which final certificate has not been issued, in Imperial County, lying south of the northerly boundary line of Township eleven (11) South of the San Bernardino Base Line, and within the area to be included.

(d) The District further agrees to change its boundaries, in the manner provided by law, so as to include within the District the lands lying north of the northerly boundary line of Township eleven (11) South of the San Bernardino Base Line, and within the area to be included, if lawful petition or petitions sufficient in all respects for such inclusion be presented to its Board of Directors at any time prior to the expiration of thirty days from and after the date on which a confirmatory judgment, as required by Article 31 hereof, declaring this contract in all respects valid and duly authorized, shall have become final; provided, however, that the District shall not change its boundaries so as to include any of said lands lying north of the northerly boundary line of said Township eleven (11) South, unless the said petition or petitions so filed shall be sufficient to lawfully include in the aggregate not less than ninety per centum (90%) (the areas to be approved by the Secretary) of the said lands, exclusive of the Dos Palmas area and exclusive of Indian lands and public lands of the United States. Within a reasonable

time after the inclusion of such lands pursuant to said petition or petitions the District further agrees to change its boundaries, in the manner provided by law, so as to also include within the District the public lands of the United States within the area to be included and lying north of the northerly boundary line of said Township eleven (11) South.

(e) Whenever any of the lands within the area to be included are included within the District the inclusion thereof shall be made upon conditions substantially as hereinafter contained (filling blank spaces with appropriate unit names as may be required and other proper designations), and the Secretary, on behalf of the United States, hereby consents to such inclusion and conditions, which conditions are as follows:

CONDITION NO. 1

DEFINITIONS

In the following conditions, the word "District" shall mean Imperial Irrigation District; the word "Board" shall mean the Board of Directors of Imperial Irrigation District; the words "All-American Canal Contract" shall mean that certain contract between the United States of America by Ray Lyman Wilbur, Secretary of the Interior, and Imperial Irrigation District, dated

_____,
(date of this contract)

and entitled "Contract for construction of diversion dam, main canal and appurtenant structures and for Delivery of Water," authorized by the electors of Imperial Irrigation District at an election held _____;
(date of this contract authorized)

and the words "distribution system" shall mean the secondary main canal and lateral system or systems, includ-

ing all canals, pipe lines, structures, pumping plants, machinery and incidental works necessary or convenient under the rules and regulations of Imperial Irrigation District for delivery of water for irrigation and domestic purposes from the All-American Canal, as the same is shown on Exhibit "A" attached to and made a part of said All-American Canal Contract, to lands in _____
(Name)
Unit as such unit is hereinafter defined.

CONDITION NO. 2

DIVISION INTO UNITS

For the purposes of these conditions and in compliance with the terms of the All-American Canal Contract, the District shall be divided into units, commencing with Imperial Unit, which unit shall comprise the lands within the District as of July 1, 1931, and such other lands as may at any time or from time to time be added thereto in the discretion of the Board.

_____ Unit shall comprise
(Name)

_____

_____

(here shall follow description or other designation of the unit involved as provided by Article 10(c) of the All-American Canal Contract)

CONDITION NO. 3

ALL-AMERICAN CANAL CONTRACT

The land within _____ Unit shall be, in all
(name)
respects, bound by all of the terms and conditions of the All-American Canal Contract and particularly by Article 10 thereof, and shall pay, as a unit obligation, the several amounts and in the manner and at the times provided for in

said contract, as the Board may determine; provided, that said lands in _____ (name) Unit shall pay to the District, as a unit obligation, that proportion of the total sum paid by the District to the United States under that certain contract of October 23, 1918, between the United States and the District for the right to connect with Laguna Dam, prior to the payment of the first installment on said contract of October 23, 1918, for which said land shall be assessed, that the total area of _____ (name) Unit bears to the total area of the District at the date notice of completion of all work provided for in the All-American Canal Contract shall be given, pursuant to Article 12 thereof, to the District. Said sum shall be divided into ten annual installments, as nearly equal as may be practicable, and paid, commencing with the calendar year next succeeding the calendar year when such notice of completion shall be so given.

CONDITION NO. 4

DISTRIBUTION SYSTEM

The lands within _____ (name) Unit shall pay, as a unit obligation, the total capital cost of any distribution system which may be constructed by or under authority of the District, to serve the lands within said _____ (name) Unit or any part thereof. When said distribution system, or any part thereof, is constructed, or an obligation therefor is incurred, said lands shall pay annually, such sum or sums as may be necessary to meet the then current obligation therefor, whether for principal or interest or both, or otherwise. Said distribution system shall at all times be and

remain the exclusive property of the District unless the District shall provide otherwise, in the discretion of the Board. When funds for the construction of said distribution system are made available, the District shall construct or authorize the same to be constructed, as the Board may determine.

CONDITION NO. 5

PUMPING COSTS

The Board shall provide by rule for the payment by the lands served of the cost of power required to pump water to or for the use of such lands.

CONDITION NO. 6

CHARGES TO BE PART OF ASSESSMENT

Any and all charges against or upon the lands within _____ Unit provided for by the foregoing
(name)
conditions unless otherwise collected from the lands within _____ Unit shall be a part of, but
(name)
in addition to, the annual assessment upon the said lands for other District purposes and payable in installments accordingly, and shall constitute an additional annual charge upon the land, and the Board shall levy such assessment upon the said lands upon an ad valorem or other basis as now or hereafter provided by law, in an amount or in amounts sufficient to raise the several sums provided for from the said lands within _____
(name)
Unit; provided, that for the protection of the interests and security of the United States, pending completion

of construction of the All-American Canal to such extent that water is available in said canal for use in _____ Unit, the annual assessment upon
(name)
the lands within said unit for District purposes shall be limited to raise only the just proportion chargeable to said unit for expenditures connected with or applying to the All-American Canal and/or arising from expenditures made in or on behalf of said unit.

(f) In the event petition or petitions for inclusion, pursuant to this article, of any privately owned lands or entered lands for which no final certificate has at the time been issued, lying south of the northerly boundary line of Township eleven (11) South of the San Bernardino Base Line, and within the area to be included, be presented subsequent to the expiration of thirty days from and after the date on which a confirmatory judgment, as required by Article 31 hereof, declaring this contract in all respects valid and duly authorized, shall have become final, then the District may in the discretion of the Board of Directors require as a condition precedent to the granting of said petition or petitions and in addition to the other conditions above named, that the petitioners shall pay to the District such respective sums as nearly as the same can be estimated (the amounts to be determined by the Board) as the holders of title or evidence of title to the several parcels of land involved in said petition or petitions and their grantors would have been required to pay to the District as assessments had such lands been included within the District at the expiration of said 30-day period, or such portion of said sum as the Board of Directors may at the time determine. The provisions of this sub-article shall also apply to all lands lying north of the northerly boundary line of said Township eleven (11) South, and within the area to be included, provided the ninety per centum (90%) petition

required by sub-article (d) of this article is filed prior to the expiration of said 30-day period.

(g) In the event the petition or petitions for inclusion of the said lands lying north of the northerly boundary line of said Township eleven (11) South of the San Bernardino Base Line, as in sub-article (d) above provided are not made and filed with the Board of Directors of the District prior to the expiration of thirty days from and after the date on which a confirmatory judgment, as required by Article 31 hereof, declaring this contract in all respects valid and duly authorized, shall have become final, as hereinabove provided, then said lands shall not thereafter be included within the District under the provisions of this contract and the works referred to in this contract north of the northerly boundary line of said Township eleven (11) South of the San Bernardino Base Line shall not be constructed under this contract and the District shall be relieved from all responsibility therefor, anything in this contract to the contrary notwithstanding, and the capacities in the works to be constructed under this contract, shall be reduced accordingly.

(h) Nothing contained in this contract shall impair any right or remedy of any person entitled to object or protest against the inclusion within the District of any particular tract or tracts of land, or the conditions imposed by the Board of Directors of the District on the inclusion of any particular tract or tracts, nor impair the power of the Board to hear and determine any such objections or protests, but if in the opinion of the Secretary such determination by the Board substantially impairs the interests of, or security otherwise available to, the United States, under this contract, then and in such event the United States shall be under no obligation to proceed further under this contract. In the event any petition or petitions be filed for the

inclusion within the District of any lands within the area to be included and, after the conditions set out in sub-article (e) of this article, or conditions less burdensome, are imposed thereon, a sufficient majority statement or statements in writing be filed objecting to the inclusion of such lands with the conditions imposed thereon, so that the Board of Directors is required to dismiss such petition or petitions, then it shall be regarded as if such petition or petitions had not been filed.

PRIORITY OF CLAIMS OF THE UNITED STATES

ART. 35. Claims of the United States arising out of this contract shall have priority over all others, secured and unsecured.

RIGHTS RESERVED UNDER SECTION 3737 REVISED STATUTES

ART. 36. All rights of action for breach of any of the provisions of this contract are reserved to the United States as provided in Section 3737 of the Revised Statutes of the United States.

REMEDIES UNDER CONTRACT NOT EXCLUSIVE

ART. 37. Nothing contained in this contract shall be construed as in any manner abridging, limiting or depriving the United States or the District of any means of enforcing any remedy either at law or in equity for the breach of any of the provisions hereof which it would otherwise have. The waiver of a breach of any of the provisions of this contract shall not be deemed to be a waiver of any other provision hereof or of a subsequent breach of such provision.

Interest in Contract Not Transferable

Art. 38. No interest in this contract is transferable by the District to any other party, and any such attempted transfer shall cause this contract to become subject to annulment at the option of the United States.

Member Of Congress Clause

Art. 39. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract, or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to this contract if made with a corporation for its general benefit.

In witness whereof the parties hereto have caused this contract to be executed the day and year first above written.

THE UNITED STATES OF AMERICA,
BY RAY LYMAN WILBUR,
Secretary of the Interior.

Attest:

NORTHCUTT ELY.
ELWOOD MEAD.
IMPERIAL IRRIGATION DISTRICT,
By JOHN L. DUBOIS,
President.

Attest:

[SEAL] F. H. MCIVER, *Secretary.*

EXHIBIT B

UNENTERED PUBLIC LANDS AND ENTERED LANDS FOR WHICH NO FINAL CERTIFICATE HAS BEEN ISSUED

(Omitted because of limitations of space. Comprises legal descriptions of lands of these categories shown on map, Exhibit A, annexed.)

BEST AVAILABLE COPY

FILED
Stephen M. Kelly, Clerk
DEC 12, 1990
Court of Appeal Fourth District

D008521
(Super. Ct. No. 58706)

COURT OF APPEAL, FOURTH APPELLATE DISTRICT
DIVISION ONE
STATE OF CALIFORNIA

IMPERIAL IRRIGATION DISTRICT,
Appellant,
vs.
STATE WATER RESOURCES CONTROL BOARD,
Respondent.

ENVIRONMENTAL DEFENSE FUND, INC.,
Intervener.

MODIFICATION ORDER AND ORDER
DENYING PETITION FOR REHEARING

THE COURT:

The opinion issued on November 21, 1990 is modified as follows:

The opening sentence on page one should be changed to read: Appeal from a judgment of the Superior Court of Imperial County, James A. Malkus, Judge (Assigned by the Chairperson of the Judicial Council). Affirmed.

Upon this modification, the petition for rehearing is denied.

WORK

WORK, Acting P.J.

Copies to: All Parties

Fourth Appellate District, Division One,
No. D008521
S019117

IN THE SUPREME COURT OF THE STATE OF CALIFORNIA

IN BANK

IMPERIAL IRRIGATION DISTRICT,
Appellant,
vs.
STATE WATER RESOURCES CONTROL BOARD,
Respondent,

ENVIRONMENTAL DEFENSE FUND.
Intervener.

Appellant's petition for review DENIED.
The request for an order directing depublication of the opinion is denied.

SUPREME COURT
FILED
MAR 13, 1991
Robert Wandruff Clerk
DEPUTY

LUCAS
Chief Justice